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The National Fruit Magazine of America

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HARRY W. WALKER, General Manager

C. E. DURST, Managing Editor  
ADVERTISING REPRESENTATIVES

Publication Offices  
53 W. Jackson Blvd.  
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Eastern Manager  
ROGER FISON  
250 Park Ave., New York City

A. H. BILLINGSLEA  
366 Madison Ave.  
New York City

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A. D. McKINNEY  
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# The Refrigerator Car and Its Influence

By F. W. Read  
California Fruit Exchange

IF IT were possible to reach out and put a finger on an electric button that would open up a flood of light on the various important factors that have been largely responsible for the development of the United States of America, you would probably see well in the foreground the modern refrigerator car, for without the development of a quick, safe and economical means of transporting highly perishable products from distant areas of production to the great consuming markets of the nation, the development of the country west of the Mississippi River would undoubtedly have been held back for at least a half century and even perhaps indefinitely. It is no wild flight of the imagination to conclude that the development of the refrigerator car has shaped in many ways the history of the country itself. The concentration of population along the Atlantic Seaboard, and in the industrial centers, Chicago and eastward, could not have taken place had it not been possible to transport to these great centers of population the perishable products which they need in every-day life.

### Development Has Been Rapid

The tremendous growth in the production of perishable food products of the soil, not to mention the host of manufactured products which must be transported under refrigeration, is almost beyond comparison. During the crop year of 1925, over a million and a quarter carloads of perishable fruits and vegetables originated in continental United States, a production which has actually quadrupled in the past 25 years. Nearly half of all of this great tonnage originated and was produced west of the Mississippi River, and as the great bulk of the nation's population lives east of the Mississippi River, it becomes at once apparent how important a part adequate transportation and refrigeration play in the handling and distribution of this immense tonnage. In fact, from Pacific Coast points, a large proportion of this tonnage moves an average journey of 2000 to 2500 miles to the point of ultimate consumption, and the United States Department of Agriculture has found that the average haul of fresh fruits and vegetables representative of the entire country is around 1400 miles.

Everyone interested in the development of agriculture should know something of the refrigerator car, and whether a grower produces apples in New York state, grapes in Michigan, peaches in Georgia, or pears on the Pacific Coast, he is almost entirely dependent upon the refrigerator car for his ability to remain in business. When it is considered, moreover, that this class of railway car had its inception and first actual trial in the early part of the sixties, the amazing development that has taken place in the last 50 years is all the more keenly appreciated.

### Michigan Central Deserves First Credit

The opinion of most authorities seems to be that the Michigan Central Railway has to be given credit for the first attempts in the carriage of fresh meats from Chicago to New York and

Boston, in a freight car constructed with compartments in which ice was first used as a refrigerant. According to students who have examined carefully the history of the refrigerator car, there are many conflicting statements relative to the origin and ownership of the first cars, and such records as are available are largely based upon the recollection of men who were alive during the period when refrigeration of meats and other products in transit was first introduced.

Early experiments on the Michigan Central Railway were tried out with ordinary box cars fitted up with a platform at each end within the car, upon which ice was loaded. These improvised refrigerator cars were capable of carrying from 2000 to 3000 pounds of ice, which had to be placed when the car was empty, and prior to loading with the cargo. No means

were provided for re-icing in transit, and as a consequence cars were handled in passenger service as far as Suspension Bridge, N. Y., where they were made up into fast freights, and, after a three days' journey from the Middle West, the meats were landed in New York City in good condition.

The Pennsylvania railroad, under the direction of W. W. Chandler, who stands forth as one of the leading lights in the development of the refrigerator car and its effect upon the shipment of perishable commodities, and for many years the head of the Star Union Line, was conducting experiments in the shipment of perishables about the same time as the Michigan Central. It is probably safe to say that 30 box cars fitted with double sides, roofs and floors by Mr. Chandler in 1857 were the real fore-

runners of the modern refrigerator car. So far as is known, these cars were the first in which insulation material against the passage of heat was used.

### First Patents in 1867

In 1867, J. N. Sutherland of Detroit, Mich., took out the first patent along the lines of better efficiency in car construction, followed in 1868 by D. W. Davis, also of Detroit, who patented an improved refrigerator car in which one of the first shipments of dressed beef was successfully moved from Chicago to Boston a year later. Davis and Chandler apparently became bitter competitors, and to this day, many who were connected either directly or indirectly with the Star Union Line, of which Chandler was the head, remember that the Davis car was called a "sweat box."

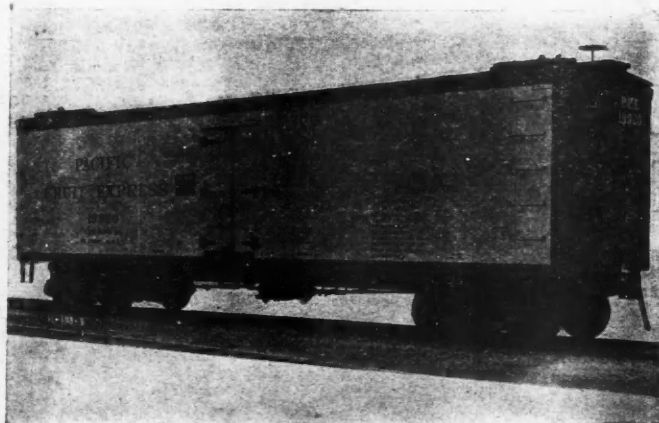
Parker Earle of Cobden, Ill., made the first attempts in 1865 at shipping fruits under refrigeration. In 1877, the first shipment of peaches was made from Georgia. In 1868, Davis tried one of his cars in the shipment of strawberries from Illinois. Michigan peaches were shipped to New York during the same year, but without marked success. Earle continued his experiments with specially constructed cars or what was known at that time as the "Tiffany" car, built with very large capacity ice chambers. His results were decidedly encouraging, and the shipment of fruits and vegetables over great distances started beyond all calculations of men at that time. Norfolk, Va., shipped the first vegetables to New York City in 1885, and first shipments of strawberries from California landed in New York in 1888. About the same year, oranges from California were shipped East, and from Florida to New York in 1889.

### Swift Promoted Shipment of Dressed Meats

Gustavus Swift demonstrated that the shipment of dressed meats was practical about this time and plunged his whole resources behind the industry on a large scale. He soon became the owner of over 6000 refrigerator cars. Swift was followed by Armour, Morris, Cudahy, and other meat packers in this enterprise. Developments followed rapidly between 1885 and 1890, during which period the Goodell Line, owned by two brothers by the name of Porter, the Continental Fruit Express, owned by Edwin T. Earle, and a line owned by Armour, entered the field of fruit shipments extending into the far west. Armour finally absorbed the above companies, and after purchasing nearly 20 more smaller lines, operated them under the name of the Armour Car Lines, the Fruit Growers' Express, and the Continental Express.

It was not until 1905 that the railroads themselves started to build their own cars and to acquire others owned and operated by private car lines. The Chicago, Burlington and Quincy, and the Santa Fe Refrigerator Dispatch were among the first to enter the field on an extensive scale, and for several years the Santa Fe, with

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A typical modern refrigerator car

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# Developing the Local Fruit Market

By Frederic Cranefield

**F**RUIT and vegetables are cash crops, and the cash crop is the great need of the farmer at present. States like New York, Wisconsin and Minnesota, where dairying is the leading agricultural industry, are complaining but little about hard times, for theirs are cash crops. I know that farmers can grow good fruit and vegetables and market them at a profit if they will observe two things. There is an increasing demand for fruit and vegetables, both fresh and canned, and opportunities for supplying this demand are completely ignored by farmers. Of the four important fruits, strawberries, apples, cherries and peaches, the bulk of the tree fruits is produced almost wholly by big growers who sell their product on the wholesale markets, which often makes a spread of 100 per cent or more between the grower and the consumer. That is the only way they can sell. "Direct to the consumer" is bunk so far as the large grower is concerned. The present system of fruit growing and marketing is vicious and demoralizing both to the grower and the consumer. The writer, for many years a strong advocate of fruit growing on a large scale and the development of a highly specialized industry, has been forced to take a modified view of the situation. I am still convinced that the fruit supply for our big cities must be grown on a large scale and localized so that a trainload may be the unit of shipment rather than a carload. The "local" grower so far as the Chicago market, for instance, is concerned, no longer exists. Such markets belong to the commercial grower and can be supplied only from vast acreages.

In the case of cities of 10,000 to 100,000, the situation is entirely different. With the advent of good roads, the farmer 10 miles out is close to town and market. Little need be added to the regular farm equipment in order to care for a few acres of orchard or small fruits. Many successful farmers are doing this very thing now, and more can do it. There is no knowledge essential to successful fruit growing that may not be easily acquired by any intelligent farmer. His knowledge of soils and their preparation for crops is half the game, but there are two things that he must learn first.

## Raise Good Fruit

Producing poor fruit and putting it on the market is about the most unprofitable game anyone can engage in. The markets are now flooded with it, and no small part of it comes from farm orchards. County agents have been busy in urging the farmers to renovate their old orchards, and while they have in some measure succeeded, the situation as a whole is worse than before. A few progressive farmers have pruned and sprayed so as to have good fruit, and they have sold it profitably. The others sold what the Lord gave them without effort, ruining the market for good fruit. Market good fruit or none at all. Good fruit sells itself anywhere, any time. These statements have been repeated so often that they rank as platitudes, but their truth remains. If you don't believe it, try it.

The old farm orchard of "57" varieties is pretty much of a nuisance wherever found. Where such orchards exist, they may better be cared for than neglected, but real success will be had only when orchards are raised that fit the existing market demands. Also, it is much easier to raise good fruit in young orchards than in old orchards. There are three outlets for the farm berry and orchard output—the local grocery store, roadside marketing, and shipping to outside points, not large cities. In any case, there are two things to learn and the second is this:

## Charge Good Prices for Good Fruit

If only good fruit is to be brought to the local market, it follows that it should bring a good price. It will.

The buying public in cities now demands high class goods and gladly pays the price for the best. Money is plentiful: \$10 is a small daily wage now for a skilled mechanic and "come easy, go easy." People are living better than they ever did before in our history, for which everybody should be thankful.

If farmers doubt that good fruit will bring good prices on their local mar-

ket, the time is at hand, May and June, strawberry season, when they can get first hand evidence. For a specific example, take the city of Madison, Wis.: 50,000 population, a large percentage cash buyers and less than 50 acres of strawberries grown within a radius of 10 miles.

Watch the Madison grocery stores from eight to 10 o'clock any week day forenoon. A steady stream of housewives shopping for good berries and rarely finding them. The first pickings that come in are usually good but as hotter weather comes, the grower crowds every berry his pickers find into the box and rushes them to market.

Crates and truck loads of strawberries come on to the Madison market

ple sauce. One dose is enough, and she waits until western box stock comes on the market. Just try bringing to market clean, sound Duchesse, Wealthy, Snow and McIntosh, uniform in size, packed either in bushel baskets or attractive smaller packages, and no matter what you ask, within reason, you will get your price. If you don't believe it, try it. Our Hebrew friends will always take the second grade for a price.

People are much the same the wide world over, and these things that have been proved in Madison, Wis., will work out in any city of like size.

## Roadside Marketing

The roadside plan of disposing of farm produce came in with a great



The modern method of marketing farm apples



A method of marketing farm apples which is not unknown to many present-day growers

daily at the height of the crop of a quality that no self-respecting farm housewife would put on her table.

The shipped-in berries are even worse. Mass production is the rule in most strawberry growing centers and everything goes to market. After 24 hours on the road and express handling, the city housewife turns away in disgust and buys bananas or apricots. Grade your strawberries, Mr. Grower, leave the undersize and soft berries in the fields or make jam of them; bring us only sound, fresh berries and

blare of trumpets and for a time was hailed as the solution of all the farmers' marketing troubles. Except in a limited way and in a small percentage of cases, the plan has failed to help anybody and in too many cases has brought discredit to farmers as a class and engendered ill feeling between the farmer and the storekeeper. So far as my observation has extended through a dozen states, the only instances of success occurred where high quality produce, and only that of high quality, was offered and sales

were confined to the actual produce of the farm sold at fair prices. Farmers have not been content to offer good fruit and vegetables, freshly gathered, to the tourist, but have tried to "slick the city feller" with second rate stuff and have added pop, peanuts and ice cream to their stock, and instead of home-made bread and cookies, for which the tourist would gladly pay a good price, bakery goods are sold. In this way, the roadside markets have too often deteriorated into junky little imitations of third rate grocery stores, housed in disreputable board shacks.

I tell you, Mr. Farmer-Fruit Grower, how your potential customers feel about these so-called roadside markets. Tourists are learning, and wise ones keep on going when these mongrel wayside shops loom on their vision, keep on going until they reach a real farmer's roadside market offering crisp vegetables, sound, ripe fruit neatly and temptingly arrayed. Perhaps there is fresh home-made bread for sandwiches and home-made cookies. Somewhere in this wide land there is a farmer's daughter who is going to win the everlasting gratitude of every middle aged male tourist who passes her wayside market. She may not be surpassingly handsome or clever, but under the counter she will have an old-fashioned cookie jar filled with those wonderful cookies like Mother used to make, thin, crispy and sugary around the edges. Oh man! Don't your mouth water for them after being fed for so long on Blank's Best from the delicatessen? When this girl appears, we old timers will not only bow down and worship but will force our last thin dime on her for even one of those heaven-sent sweets.

Worse than the make-believe market stand and a natural sequence, hucksters and peddlers from the cities have set up stands selling even worse stuff. Farmers are not the only ones to do this sort of thing, and perhaps they are following in the footsteps of their advisors—for what follows happened to me several years ago. I was visiting the agricultural college of a western university, and at noon my horticultural professor and guide took me to lunch at the students' refectory. It was at the time when garden peas were at their best on the college farm, as our walk that morning showed, and at lunch we were served *canned peas*.

If the farmer will get beyond the canned pea stage in his roadside marketing and offer only fresh, home-grown produce, put up in attractive form and sold from an attractive booth, he will win. Not only will tourists of discernment and a hunger for fresh farm produce patronize him, but he will get more than his share of city trade, for an objective for an afternoon or evening drive is a blessing to most city people, especially when they may be sure of getting a little fresh farm produce for the same price they pay the grocer for stale vegetables.

Have you any conception, Mr. Farmer, how many more eggs we city folks are eating now than 20 years ago, how many more in proportion to city population? The answer is easy; we are sure of getting *fresh eggs* now.

## Shipping to Distant Markets

There is no chance for the farmer to market fruit profitably through wholesale channels. His output is too small, and casual shippers receive scant consideration on the wholesale markets. Disposing of these small lots, rarely packed to meet market requirements, requires better salesmanship than to dispose of those from the larger shipper who knows what the market demands. The results are disappointing to all parties. Commission men in eastern cities have more trouble of this kind than their middle western brethren. The New England farmer will ship a dozen chickens and

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# South of the Rio Grande

By C. E. Durst

SO THIS is the Rio Grande! That may seem like a commonplace expression, but it carries the thought that came to me as I first looked upon this famous stream at dusk one evening late in March. The river was much smaller than I expected it to be, and instead of it being the majestic sweeping body of water that its name suggests, it was muddy and sluggish. However, it was low water time, and the high banks on both sides indicated that the stream must be one of roaring activity during periods of high water. In fact, the river breaks out of its banks at times, and the surplus water runs down through two or three parallel bayous which are ordinarily dry.

Our trip, while carefully arranged by the officers of our association and the officials of the Missouri Pacific Railway as to route, time, etc., was not by any means a cut and dried affair. What I mean by that is that we were not shown simply what those in charge wanted us to see and nothing else. We did, of course, make the visits that were arranged for in advance, but we also had abundant opportunity to see and do other things besides those planned. For instance, we were in Mexico City three days, and only one day was required to make the scheduled visits. During the remaining time different members of our party went where they wished. Similar opportunity existed at many of the other places we visited. When one considers that under this plan, some 40 to 50 inquisitive farm paper editors were constantly seeking information, and also that they were discussing the situation and exchanging views with each other as the tour progressed, it is easy to see that we were able to get a pretty fair idea of the situation. None of us was seeking to gain any particular viewpoint. We were under obligation to no one. We were simply trying to get at the truth of things. None of us claims to have obtained an entirely accurate view of the situation. However, the fact that every member of the party, acting independently, reached about the same general conclusions would seem to place considerable weight on the accuracy of our findings.

## A General View of Mexico

We can better understand Mexico and its problems, I believe, if we first have before us some facts about the country in general. I believe this information will also help us to better appreciate the significance of some things that I shall say later on in these articles.

In size, Mexico is practically the same as the United States east of the Mississippi River with New England and Wisconsin omitted. It is much larger than is generally believed.

Generally speaking, Mexico consists of two narrow coastal plains, one on the east and one on the west coast, and a great central plateau extending from northwest to southeast. The eastern coastal plain is the wider one,

particularly at the north end. The central plateau is bordered on the west by the extension of the Sierra Nevada range and on the east by a more or less indefinite extension of the Rockies. The plateau is broken in many places by mountains and rolling land. There is, however, a great quantity of workable land which, with adequate irrigation, would be quite productive. The altitude of the plateau ranges from 8000 to 10,000 feet in southern Mexico down to 1000 to 1500 feet in northern Mexico. However, there is some land that is much higher. Mt. Orizaba, for instance, which is located at the border of the plateau between Mexico City and Vera Cruz, rises practically out of the coastal plain to a height of

is now Mexico City, near one end of the lake. Causeways connected the island with the main land in three directions. The lake has since been drained. A few of our party developed slight cases of nose bleed at Mexico City, but otherwise we could not appreciate the fact that we were at such a height above sea level when all around us we saw large areas of level land bordered by mountains.

We made the trip between Mexico City and Vera Cruz by daylight on the way to and from the tropics south of Vera Cruz. After traveling a long distance over level ground through the Valley of Mexico, we suddenly passed through a short tunnel, then between some fairly high hills or low mountains, and there we were at the edge

banana and coffee section, which is only 18 degrees north of the equator and where the temperature was said to be 108 in the shade the day we visited the place. I have always liked hot weather, and with the help of a sombrero I enjoyed the day greatly.

Perhaps I should say here that all over Mexico and in most of Texas all of our party wore their lightest summer clothes and felt no chill whatever. It was around April 1 when we were making this trip, so the contrast with a northern climate can readily be appreciated. Many of us, when we got back to our homes, had to use our overcoats for another month or six weeks. Up on the great Mexican plateau the days are warm and bright, and the evenings are cool enough to make a light topcoat comfortable. The plateau weather is warmer in the north than in the south because of the difference in altitude.

The coastal plains are hot in the daytime and fairly cool at night.

Practically all of Mexico receives its rainfall between June and September. In some places it rains every day during this period while in others it rains only part of the time. In general, the rainfall is heavier in the south than in the north, and it also rains more in the coastal plains than on the plateau. The rainfall varies from over 100 inches a year in parts of the coastal plains to five or six inches in the north central section. Irrigation is necessary in the north coastal plain in the vicinity of Matamoros, the same as across the Rio Grande at Brownsville, but so far as I learned, no irrigation is necessary in the southern coastal plain. Irrigation is necessary all over the central plateau for best results, although some dry farming is practiced and in some places alfalfa and other deep rooted crops obtain sufficient water from the soil to grow luxuriantly throughout the dry period.

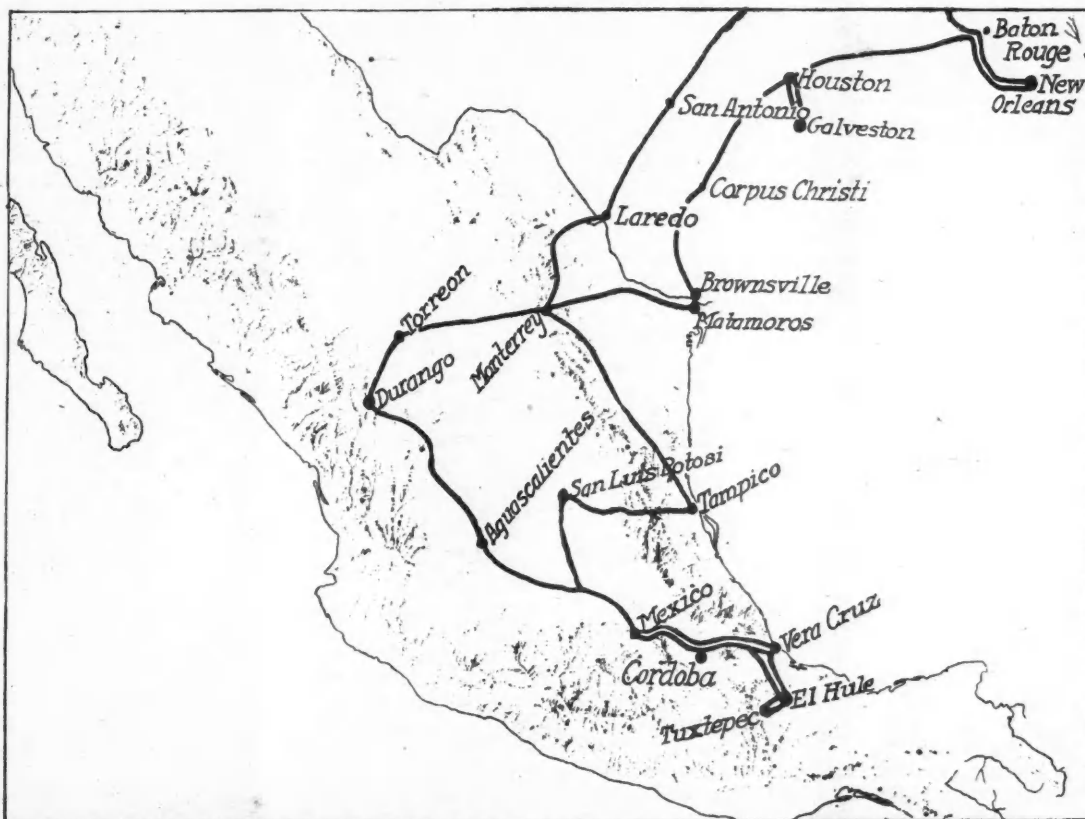
## Agricultural Production

The annual production of the country is a pretty good index of its prosperity and of the habits of its people. According to the best figures obtainable, the average five-year acreages and production (1920-24) of some of the important crops of Mexico are as follows:

AGRICULTURAL PRODUCTION OF MEXICO—FIVE-YEAR AVERAGE, 1920-24.		
	Acres.	Bu.
Wheat .....	2,267,200	10,604,200
Rice .....	52,600	1,555,100
Barley .....	700,800	3,915,100
Maize .....	7,515,300	87,879,100
Potatoes .....	4,400	927,100
	Lb.	
Tobacco .....	12,900	23,705,700
Cotton .....	326,800	20,220,000

The total production of each of these crops, it will be seen, is not great, and the production per acre is relatively low. It should be borne in mind, however, that Mexico has only about 16,000,000 people and that there

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This map shows the route taken by the agricultural editors in the tour of Mexico and the more important places visited. The shaded portions indicate the more or less mountainous areas along the eastern and western coasts. Note the comparatively narrow unshaded coastal plains bordering both coasts. The large unshaded area between the mountainous regions shows roughly the position and outline of the great central plateau

17,830 feet. It is the second highest mountain in North America, being exceeded only by Mt. McKinley in Alaska. Popocatepetl and Sleeping Lady, the two great sentinels between which Cortez passed and which are spoken of so frequently in Aztec history, are both about 14,000 feet high. Both were active volcanoes at the time of the conquest, but Sleeping Lady is now extinct and Popocatepetl emits smoke only at times. Fortunately, it was active on one of the days we saw it. All three of these mountains are perpetually covered with snow. There are numerous extinct volcanoes all over the plateau, and the land bears unmistakable evidence of volcanic formation.

## A Drop of 4100 Feet in 29 Miles

No one can fully appreciate the existence of the great central plateau until he makes the trip from Mexico City to Vera Cruz by railway. Mexico City is 7349 feet above sea level. It is located in what was formerly a great inland lake that was entirely surrounded by mountains. Tenochtitlan, the capital city of the Aztecs, was located on a small island in what

of the plateau! From this point, there is a drop in the railroad of 4100 feet in 29 miles. Furthermore, while the railroad distance is 29 miles, the distance "as the crow flies" is probably not over 10 miles. The grade is over five feet to 100 in places. Only one railroad in the world, located in Switzerland, is said to have steeper grades. The scenery is beyond description, and the depths into which one looks as the train sweeps over the bridges and around the shelves blasted out of the mountain rock are simply dazzling. Fortunately, the railroad, which was built with English capital, has a very fine roadbed. The section including the incline is electrified. Two motors handled our heavy train very nicely.

## Climate Is Delightful

The climate of Mexico is delightful. We experienced only one day that could really be called uncomfortable, and that was in northern Mexico near Torreon. I believe that the sand and dust were more responsible than the heat. It should be said that a few members of our party did express discomfort down at El Hule in the

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Associate Editors:

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## The Fruit Crop Prospects

ON PAGE EIGHT of this issue the fruit crop estimates of the United States Bureau of Agricultural Economics for June 1, 1927, are presented. This report brings out some very interesting and pertinent information for fruit growers.

The apple crop promises to be much smaller than that of last year. The condition on June 1 for the country as a whole was 57.2 per cent as compared with 78.3 per cent last year on June 1 and a 10-year average condition of 69.7 per cent on June 1. The crop promises to be smaller than that of last year in all states except Maine, New Hampshire, Vermont, Michigan, Minnesota, South Dakota, Nebraska, Kansas and Idaho. Thus, only one of the large apple growing states—Michigan—will apparently have a larger crop than last year. Only the nine states named, and in addition Iowa and Montana, have prospects for a crop bigger than the 10-year average.

In California, the almond, apricot, cherry, lemon, orange and plum crops are going to be below those of last year and also below the 10-year averages. The prune and walnut crops will be above those of last year but about the same as the 10-year average in the case of prunes and higher than the 10-year average in the case of walnuts. The California grape crop promises to be about the same as that of last year, which was an enormous crop.

In Florida, the grapefruit, lime and orange crops will be smaller than those of last year and smaller than the 10-year averages, while the pineapple crop will be the same as that of last year and below the 10-year average.

The peach crop for the country as a whole promises to be about two-thirds that of last year and about four-fifths as large as the five-year average. The production seems quite well distributed, with perhaps a lighter crop in the Middle West than in other sections.

The pear crop for the country as a whole will be about 75 per cent that of 1926 and about 90 per cent of the five-year average. Generally speaking, the distribution will be about the same as last year.

The fruit conditions on the whole look much better than they did last year at this

time. The crop promises to be lighter, it is true, but the crop of 1926 was by all means too large. At any rate, few growers made money out of it. This year, however, there is every reason to expect better results. The lighter crops of both citrus and deciduous fruits, except possibly grapes, should by every method of reasoning result in better prices than those prevailing last year. Furthermore, the crops are better distributed among the growers in the different sections than conditions a month ago indicated they would be. In fact, we feel quite optimistic about the situation and believe that a much better outcome awaits growers than resulted last year. We believe that it is no time for growers to be contracting their fruit crops away at profitless prices, and we believe furthermore that it will pay growers to do whatever can yet be done to improve the quality and quantity of their fruit crops.

## The President Should Get the Facts

PRESIDENT COOLIDGE is now taking his vacation in the Black Hills of South Dakota. The place selected is a fortunate one, in our opinion. Besides providing the President with needed relief from the strenuous official life at Washington, the Black Hills will be an ideal place from which to ascertain the viewpoints of farmers and farm leaders of the Middle West and West as to the needs of agriculture in their sections. For, notwithstanding the importance of other producing sections, it must be granted that the Middle West and West produce most of the nation's food and have always been the nation's backbone of prosperity.

From several quarters, the suggestion has been made that the President selected the Middle West as his vacation place this year in order that he may win that section over to his viewpoint by a carefully planned and executed program of publicity and also in order that he may weaken any opposition which may exist toward his renomination and re-election next year. Frank R. Kent, in a recent issue of "The Nation," goes so far as to charge that the President is to have with him a new agricultural plan drawn up by members of his cabinet, which will be devoid of provisions he (the President) considered unsound in the McNary-Haugen bill, that hand-picked farm leaders and farm journal editors will be invited to see the President, and that as a result voluminous publicity will be given out indicating that the President's agricultural views are sound, that the people in the various states and communities of the Middle West and West have great confidence in him, and that his renomination and re-election are assured. This kind of publicity, whether based on fact or not, will, according to Kent, have the effect of convincing many people that the President has won the West over to his viewpoint.

We hesitate to place any credence in these charges. We cannot feel that any president would so violate the spirit of his oath of office, and so deviate from the principles upon which our great country was founded and built, as to indulge in such practices.

We feel, however, that in view of the fact that such charges have been made, the President should take every precaution to see to it that no grounds exist for such criticism. He should see to it that a fair proportion of farm leaders of recognized standing, and who represent every shade of opinion, are invited to see him, as well as those who share his own viewpoint. Furthermore, he should insist that no biased publicity be given out; for it cannot be doubted that the publicity methods employed at Rapid City this summer will be carefully observed by many persons.

In short, we believe that the President

should not spend his vacation in the West with the intention of converting that section to his own viewpoint. Rather, he should make an earnest and sincere attempt to ascertain the absolute facts with reference to agriculture in these great producing sections, and he should then endeavor to translate the facts into a program of constructive legislation, bearing in mind both the needs of agriculture and the welfare of the country at large, and refusing to be influenced by the demands of selfish interests. Such a plan of action would constitute statesmanship of the kind that we always need in a chief executive, and it would make more friends for the President than any other program he might follow.

## Better Standardization Needed

AT THE annual meeting of the New York State Horticultural Society held at Rochester in January, a near sensation was created when 50 barrels of apples donated for the purpose and picked at random from apples in storage were stripped of all names and labels and were emptied on the exhibition shelves. According to reports, the grade of fruit found in the barrels was very disappointing in a large number of cases.

New York growers should not take the matter too much to heart, for the same state of affairs would be found in any other barreled apple state if a fair sample of the apples were put to a similar test.

Notwithstanding such conditions, some persons propose to solve the problems of the apple industry by advertising alone. Advertising may possibly accomplish some results under present conditions, but this is a question, in our opinion. Advertising is simply common sense publicity. Before it can be effective, there must be something to talk about. In the apple industry, we need economical and standardized production in the first place. Secondly, we need standardization of grade and pack, accompanied by labeling and branding of the product. Until proper attention is given to these matters, a basis for effective advertising does not exist. Even after these three factors are given attention, we must also give consideration to proper distribution and expert salesmanship. In other words, a complete and well co-ordinated program of merchandising must be placed in operation.

Under present conditions, our efforts can best be expended in the direction of encouraging organization on the part of growers so that a complete and well co-ordinated program of merchandising can be put into operation.

## Agrees With Our Editorial

OUR EDITORIAL in the April issue entitled "Self Interest and Co-operation Will Not Mix" was reprinted in a recent issue of Jim Hill-o-Gram.

This is the house organ of the Wenatchee District Co-operative Association, which is the leading co-operative in the greatest apple producing section of the world. At the close of the reprinted editorial, the following "Editor's Note" was attached:

"Editor's Note.—The first year we were in business, Mr. Rule's organization, the North American Fruit Exchange, was employed as our sales agent. After a year's experience, we arrived at the same conclusion expressed in the above article—that self-interest will not mix with co-operation. Accordingly, at the close of the 1921-22 season, our own organization, with head offices under our own roof at Wenatchee, was formed. We find that complete co-operation works much better than the hybrid kind we attempted during our first year."



# Nectarines Deserve More Attention

By U. P. Hedrick

New York Agricultural Experiment Station

THE NECTARINE seems to be known in America only by professional fruit growers. The fruits are seldom seen on the markets in the East at any rate, and when occasionally exhibited at fairs, they always arouse the curiosity of sight-seers. In writing about the nectarine, therefore, it is necessary to define and describe the fruit.

The nectarine differs little from the peach in tree or fruit, except that the fruits are hairless and have the smooth skin of the plum and cherry. Correlated with this hairlessness is a peculiar sweetish flavor which gives the fruit its name. The flavor is that of the peach, except that it is sweeter and has a slight tang of the kernel—a most delectable fruit. There are clingstone and freestone, red, yellow, and white-fleshed, and early and late sorts, as with the peach.

## Tree Resembles That of the Peach

The tree of the nectarine does not differ in the least from that of the peach and in an orchard can never be distinguished from a peach tree. The trees are as hardy, suffer from the same diseases, require the same culture in the orchard, and are planted and pruned in the same way. The two fruits are adapted to the same soil and climatic conditions, and wherever peaches are grown, the world over, the nectarine may be grown.

To professional horticulturists, the nectarine is one of the most interesting phenomena in horticulture. It is the classical example of bud and seed variations which fruit growers know as sports and scientists as mutations. Thus, nectarines may spring from peach stones and peaches from nectarine stones. Or, peach trees may produce nectarines by bud variations, and nectarine trees may likewise produce peaches, and in either case, the nectarines or peaches so arising usually come true to seed. Lastly, either peach or nectarine trees may produce individual fruits, half nectarine and half peach.

## No Intermediate Forms

In all of the mutations so far recorded, there have been no intermediate forms between the peach and the nectarine. The peach produced in a bud variation from a nectarine is

nothing but a peach; the nectarine, from a peach, nothing but a nectarine. No one knows under what conditions the peach and the nectarine sport and produce each other. So far, such sporting is a wholly natural phenomenon, for no one has been able to cause the peach to produce the hairless form, or a nectarine to bring forth a downy

fruit. Fruit growers often find trees of the one or the other, thus mutating in orchards under conditions that are exactly the same as those under which neighboring non-mutating trees are growing.

Now, to end this discussion of the origin of the nectarine, it may be said that this fruit is commonly looked

upon as a retrogressive mutation; that is, a character, in this case pubescence on the fruit, becomes latent and is lost—a type of mutation frequent among cultivated plants. The nectarine, then, is a peach with one character subtracted. When the nectarine yields a peach, the character has been restored.

## Popular in Europe

In Europe, the nectarine is as highly prized as the peach, but this fruit has never been much grown in America for the reason that it suffers much more than the peach from the curculio, a pest which finds all smooth skinned stone fruits much to its taste, and the nectarine more so than that of any other smooth skinned fruit. But now that the curculio seems not to be so common a pest as formerly, and since it can be easily controlled by spraying when it does appear, there are no reasons why nectarines cannot be grown wherever peaches grow.

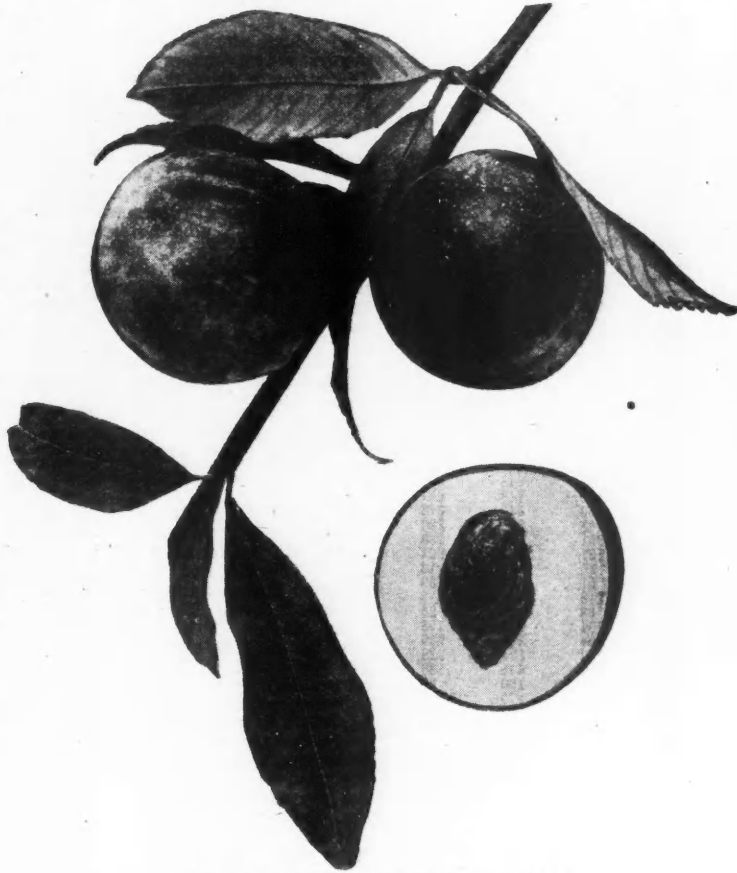
Certainly, once obtained, the fruit is as handsome and as delectable, whether fresh or preserved—in fact, the nectarine is a handsomer product when preserved either by canning or by evaporating.

## Few Varieties Available

Unfortunately, there are few varieties of nectarines from which fruit growers may now select. Since the peach was brought to America, probably some thousand or more varieties have originated. Possibly 200 sorts are now under cultivation in different parts of America. Out of this great number of peaches, there are none or at least not more than one or two varieties that originated in Europe. The European sorts seem almost never to be suited to American conditions. Almost without question, we shall find that nectarines which originated in Europe are unsuited to American conditions and that we must breed varieties for the country as we have done with the peach before we can have a satisfactory list of nectarines.

Fruit growers and gardeners who want to try a few nectarine trees, however, will find that there are several varieties that respond fairly well to American conditions if the plants can be obtained. Probably all the following kinds can be obtained from California.

(Concluded on page 17)



Typical specimens of the Hunter nectarine

# Administration of Produce Agency Act

SECRETARY of Agriculture Jardine recently issued regulations covering the administration of the Produce Agency Act passed at the last session of Congress. Administration of the act, which deals with the marketing of perishable agricultural products, is in charge of the Bureau of Agricultural Economics of the Department of Agriculture.

Lloyd S. Tenny, chief of the Bureau of Agricultural Economics, declared in a supplementary statement that "the act makes it a misdemeanor for anyone receiving perishable farm products in interstate commerce for or on behalf of another to dump, abandon, or destroy the products so received without good and sufficient cause therefor; that it is a misdemeanor for anyone receiving such products for or on behalf of another in interstate commerce to fail, knowingly and with intent to defraud, to account truly and correctly therefor, and a misdemeanor for anyone receiving such products in interstate commerce, for or on behalf of another, knowingly and with intent to defraud, to make any false statement concerning the handling, condition, quality, quantity, sale, or disposition thereof.

"In considering the act and the regulations thereunder, numerous questions will arise in the minds of the handlers of perishable farm products as to when and under what circumstances the act is applicable. It is not possible for the department to

foresee and announce in advance all of the instances in which the act may apply. In its enforcement, the department necessarily must consider each transaction that may come into question strictly upon the facts relating thereto. In general, it may be stated, however, that all persons, firms, associations or corporations receiving produce for or on behalf of another in interstate commerce or in the District of Columbia, whether at point of origin or at destination or elsewhere, are subject to all of the provisions of the act. Obviously the act applies, therefore, not only to commission merchants but also to distributors, brokers and others whenever they receive produce in interstate commerce or in the District of Columbia to be handled for or on behalf of another.

"The act and the regulations thereunder provide that a certificate may be obtained on produce that is without commercial value when such produce is intended to be dumped, abandoned, or destroyed. The purpose of such a certificate is to protect the receiver subject to the act by furnishing him with evidence which he may submit to his principal to show that he has 'good and sufficient cause' for dumping, abandoning, or destroying the produce. The act does not under any circumstances require that a certificate be obtained before the produce is dumped, abandoned, or destroyed. If the receiver is satisfied that he has good and sufficient cause

for dumping, abandoning, or destroying the produce and does not care for the protection of a certificate in justification of such action on his part, he is not required to have the produce inspected.

"If a certificate is obtained it will not meet the requirements of the act unless it is issued by a person in one of the classes designated in the regulations and unless it states that the produce was without commercial value at the time of inspection. If the produce received is without commercial value without reconditioning but could be reconditioned and sold for more than the cost of reconditioning, the receiver would be expected to recondition the produce and dispose of it to the best advantage of his principal.

"The pooling of different lots of produce received for sale, or the pooling and averaging of various prices received for different lots of produce, unless the shipper or owner of the produce has agreed thereto, is not authorized by the act. The department also believes that if an agency subject to the act sells part or all of a consignment of produce to itself or to a jobbing department of its business, or to a concern in which it has a financial interest or which is financially interested in the agency, then as a safeguard and in order to obviate possible misunderstandings it should disclose the fact to the shipper in accounting for the produce."

Rules and Regulations of the Secretary of Agriculture for the Enforcement of the Produce Agency Act (44 Stat. 1355).

## Regulation 1. Definitions

Section 1. Words used in these regulations in the singular form shall be deemed to import the plural, and vice versa as the case may demand.

Section 2. For the purpose of these regulations, unless the context otherwise requires, the following terms shall be construed, respectively, to mean:

Paragraph 1. The "Produce Agency Act," or the Act.—An Act of Congress entitled "An Act to prevent the destruction or dumping, without good and sufficient cause therefor, of farm produce received in interstate commerce by commission merchants and others, and to require them truly and correctly to account for all farm produce received by them," approved March 3, 1927 (44 Stat. 1355).

Paragraph 2. Person.—Individual, firm, association, or corporation.

Paragraph 3. Secretary.—The Secretary of Agriculture of the United States.

Paragraph 4. Chief of Bureau.—The chief of the Bureau of Agricultural Economics of the United States Department of Agriculture.

Paragraph 5. Produce.—The term "produce" as used in the act means fruits, vegetables, melons, dairy or

(Concluded on page 16)

## Fruit Crop Estimate for June 1

THE FOLLOWING tables give the fruit crop estimates of the United States Bureau of Agricultural Economics as of June 1, 1927:

## APPLES BY STATES

State.	Condition June 1— 10-yr. av.		
	1927	1926	1917-26
Maine	90	73	82
New Hampshire	86	82	83
Vermont	86	85	85
Massachusetts	78	91	84
Rhode Island	75	93	82
Connecticut	72	86	84
New York	72	85	78
New Jersey	68	80	75
Pennsylvania	63	86	72
Ohio	56	82	66
Indiana	49	80	63
Illinois	51	72	66
Michigan	76	74	73
Wisconsin	82	85	79
Minnesota	85	79	73
Iowa	78	85	73
Missouri	44	65	61
North Dakota	87	65	73
South Dakota	77	69	63
Nebraska	66	59	59
Kansas	66	59	59
U. S. total	57.2	78.3	69.7

## PEACHES AND PEARS, BY STATES

State.	PEACHES (TOTAL CROP). Production in thousands of bushels (i. e., 600 omitted).			PEARS (TOTAL CROP). Production in thousands of bushels (i. e., 600 omitted).		
	Indi- cated June 1, 1927.	Harvested 1926.	Five- year av. 1922-26.	Indi- cated June 1, 1927.	Harvested 1926.	Five- year av. 1922-26.
Maine	12	6	10	12	6	10
New Hampshire	28	29	27	14	10	16
Vermont	12	6	9	12	6	9
Massachusetts	172	213	175	85	60	75
Rhode Island	29	37	31	11	12	12
Connecticut	195	235	230	53	37	55
New York	1,470	2,300	2,376	2,079	2,088	2,287
New Jersey	2,490	3,000	2,376	443	645	570
Pennsylvania	1,128	2,498	1,656	460	748	607
Ohio	1,012	2,120	1,398	260	430	378
Indiana	290	900	511	147	328	280
Illinois	1,178	2,660	1,127	391	818	535
Michigan	639	1,564	1,037	721	889	931
Wisconsin	15	17	16	15	17	16
Iowa	48	97	70	51	68	58
Missouri	583	1,722	1,388	246	473	413
Nebraska	66	50	42	28	29	26
Kansas	226	266	215	184	186	198
Delaware	331	450	310	164	388	285
Maryland	382	700	533	230	394	328
Virginia	480	1,176	861	140	410	289
West Virginia	238	1,000	668	14	100	59
North Carolina	1,050	2,100	1,474	112	270	175
South Carolina	380	1,054	798	58	133	105
Georgia	5,655	9,400	7,939	85	257	208
Florida	63	125	123	35	66	52
Kentucky	328	1,110	920	38	144	113
Tennessee	874	1,860	1,637	106	266	185
Alabama	581	1,159	1,058	110	211	188
Mississippi	330	551	520	121	189	169
Arkansas	1,118	2,400	2,090	63	116	95
Louisiana	101	228	218	46	71	61
Oklahoma	595	180	1,219	81	81	152
Texas	899	2,310	1,916	314	580	436
Montana	5	3	3	5	3	6
Idaho	131	297	190	64	68	62
Colorado	796	976	799	561	564	509
New Mexico	46	131	127	26	42	39
Arizona	67	91	79	15	15	15
Utah	592	550	617	68	80	67
Nevada	4	8	6	4	6	6
Washington	145	1,222	967	1,330	3,220	2,342
Oregon	157	384	319	1,495	2,100	1,561
California	20,489	21,252	16,866	8,070	9,000	6,775
U. S. total	45,396	68,425	54,014	18,577	25,644	20,756

Interpreted from condition reports. Indicated production increases or decreases with changing conditions during the season.  
\*Less than five-year average.

## FRUIT AND NUTS, CALIFORNIA AND FLORIDA

Crop and state	Condition June 1— 10-yr. av.		
	1927	1926	1917-26
Almonds, Calif.	65	91.0	68.8
Apricots, Calif.	61	62.0	67.0
Cherries, Calif.	47	70.0	70.8
Grapefruit, Fla.	52	53.0	77.4
Lemons, Calif.	76	94.0	88.2
Limes, Fla.	51	80.0	76.5
Oranges, Calif.	79	87.0	91.2
Oranges, Fla.	57	84.0	80.1
Pineapples, Fla.	55	55.0	73.8
Plums, Calif.	67	92.0	*80.4
Prunes, Calif.	74	58.0	74.1
Walnuts, Calif.	95	58.0	84.2

## GRAPES, CALIFORNIA.

Wine grapes, Calif.	Condition June 1, 1926	
	1927	1926
Wine grapes, Calif.	92	92
Raisin grapes, Calif.	88	82
Table grapes, Calif.	87	90
All grapes, Calif.	88	88

## Another Plan for Agricultural Building in Chicago

ANOTHER movement is on foot for the construction of an agricultural building in Chicago. This time the movement is being conducted under the auspices of the Agricultural Club

of Chicago, an organization which seems to have been organized for the purpose.

The proposed building is to be constructed within easy walking distance of the loop and is to be used to house the offices of organizations connected directly or indirectly with agriculture and is to be the headquarters for agricultural conventions and exhibits of all kinds. The preliminary plans call for a building 900 feet long, 220 feet wide and 21 stories high in the main portion of the building.

THE SMARTING of the eyes that follows the use of some sulphur sprays can be relieved as follows: Before retiring place a cup with a little milk in it near the bed. When the smarting commences, turn the face downward and moisten the eyes with a few drops of the milk; this will relieve the pain for a moment. During this moment rub the eyes with the knuckles so as to squeeze as many tears out as possible. The tears carry the sulphur. The smarting will soon return; apply some more milk and rub again. Repeat the process till permanent relief comes; it doesn't take long.—J. A. E., New Jersey.

## The Editor's Mail Box

## First Runners Best

EDITOR, AMERICAN FRUIT GROWER MAGAZINE: Will you please tell me whether it is best to leave the first set of runners of strawberries set plants for a matted row or do you think the first runners should be removed and the second or third set of runners used? Some people recommend one way and some the other way. I would appreciate your opinion.—J. A. R., West Virginia.

ANSWER: A few years ago there was considerable difference of opinion on this point, even among experts. No one was sure which method was best. However, in the last few years information has developed which shows that plants from the first set of runners usually do best. The stronger that the young strawberry plants become, the larger and better will be the berries of the succeeding crop. The earlier that the plants become established, the better and larger they will become before the close of the season. Such plants develop in their crowns much stronger fruit buds than plants which become established later. It seems to me there is no doubt but that plants from the first set of runners will give the best results and should be allowed to take root.

## Rye and Vetch as Cover

EDITOR, AMERICAN FRUIT GROWER MAGAZINE: Will you please advise me as to what combination of rye and vetch would be good for a cover crop. My trees apparently need nitrogen and I have heard that vetch and rye make a good combination.—E. D. L., Ohio.

ANSWER: A combination of a bushel of rye to 20 pounds of vetch will make an excellent cover crop. The rye and vetch should be sown as soon as the hot weather of summer is past. This will usually be about August 15 in your section of the country. At about that time the dry weather, if any, is usually broken by a rain, and cooler weather begins to come, particularly at night. It is advisable to get the vetch sown fairly early, for the plants are rather slow to become well established. However, the seed should not be sown while the ground is still dry and the weather hot. Be sure to use winter vetch.

If you use good seed, sow it at the right time, and are lucky enough to have good weather, you will easily get a good stand and obtain a good cover crop. The best distribution of seed is usually obtained with a seed drill. This method also gets all the seed into the ground and prevents the wastage that always follows broadcast.

## Killing Johnson Grass

EDITOR, AMERICAN FRUIT GROWER MAGAZINE: Can you tell me of a practical method of killing Johnson grass? As you probably know, its roots grow deep and are jointed. When the roots are broken under the ground, every joint will develop sprouts. I have some Johnson grass in my orchard that is spreading every year. I could spray it with some poison as I do not keep any stock in the orchard.

In girdling trees for fruitfulness, is the bark removed around the limb clear to the wood or is only the outer bark removed?—W. F. M., Arkansas.

ANSWER: I do not believe it would be advisable to attempt to kill Johnson grass by spraying with chemicals. The grass grows very vigorously and new sprouts would come out quickly. It seems to me there is too much danger of poisoning the soil and too little chance of killing the weed to justify the use of chemicals, especially in an orchard.

It seems to me the most practicable method is to kill the grass by cultivation. I suggest that you first plow the orchard deep enough to bring most of the roots to the surface, except where tree roots will prevent such deep plowing. After plowing practice absolutely clean cultivation throughout the season. If you will use a disk and spring-tooth harrow throughout one growing season and thus prevent any growth of the weed from starting, you can kill all or prac-

tically all of the grass in one season. However, you must be very persistent. If you allow the growth to develop at all, the roots will obtain manufactured food from the green portions and thus will be enabled to live longer. If you will keep green leaves from developing, you will be able to starve out the roots in about a season as a rule.

In girdling trees, the bark should be removed all the way to the wood.

## Spraying Dandelions

EDITOR, AMERICAN FRUIT GROWER MAGAZINE: Is there any method by which I can eliminate dandelions in a lawn by spraying?—W. E. R., Missouri.

ANSWER: The Massachusetts Agricultural Experiment Station is recommending the use of iron sulphate dissolved in water at the rate of one and one-half pounds in one gallon of water. The material should be applied thoroughly and uniformly with considerable pressure by a nozzle throwing a fine spray. One gallon should be used to 75 or 100 square feet of ground.

The black spots on the grass caused by the chemical will soon disappear and the grass will not be injured. The spray is best applied when the dandelions are in bud, but it may be used at any time. The method is recommended only when the dandelions are quite thick in the lawn.

To assist the grass to become re-established, use five pounds ammonium sulphate to 1000 square feet of lawn area. It may be applied in solution or when the ground is dry. In the latter case, I recommend watering the lawn thoroughly immediately after application.

## Replanting an Apple Orchard

EDITOR, AMERICAN FRUIT GROWER MAGAZINE: In regard to the inquiry of W. J. D. in the February issue regarding the replanting of an orchard, I planted some peaches following apple trees two years ago, and the peaches are now six to eight feet tall and in vigorous condition. In planting these, I dug holes 20 inches deep and six feet square and placed the top soil in the bottom of the hole. Trees planted in this way are now more than twice the size of trees planted in the ordinary way. It seems to me there is ample evidence that such replanting may be done with profit.—George Lee, New Zealand.

ANSWER: In your case, of course, you replanted with a different species. The peach is somewhat different from the apple in its food requirements, and it can therefore follow an apple tree much more readily than a young apple tree could. Furthermore, the peach is affected by only a few of the insects and diseases that affect apples. The inquiry of W. J. D. had reference particularly to the replanting of an apple orchard with apples, but, of course, your experience is interesting in this connection.

## Cannot Control Leaf Curl by Spraying Now

EDITOR, AMERICAN FRUIT GROWER MAGAZINE: Can you tell me of any spray I can use now on my peach trees for the control of curly leaf that will not injure the fruit or tree?—B. J. S., Illinois.

ANSWER: I regret to advise that you cannot control peach leaf curl by spraying at this time. This disease starts in the early spring from spores carried over on the buds and twigs. These spores germinate, and the fungus begins to grow about the time the buds begin to swell. The fungous growth soon gains entrance to the buds and leaves, and after that time it is impossible to control the disease for the season by spraying.

In order that spraying may be effective, application must be made during the dormant season. Many growers wait until just before the buds begin to swell, as the material is believed to be most effective at this time. However, bad weather



often prevents application at this time until it is too late for the spray to control the disease. For that reason many growers are spraying for leaf curl in the fall or during mild spells in the winter. Bordeaux or lime-sulphur should be used.

### Strawberries Between Orchard Trees

Editor, AMERICAN FRUIT GROWER MAGAZINE: Do you think it advisable to grow strawberries between peach and apple trees? I have some growing in my young peach orchard now, and I should like to know whether it is advisable to continue growing them there or to plant them on other land?—J. W. W., Georgia.

ANSWER: A great many growers feel it is inadvisable to grow strawberries between peach or apple trees. The cultivation system that is necessary for the best results with strawberries is not well adapted for the best results with peaches and apples. Since your strawberries are now in your peach orchard, I would suggest that you leave them there until they are ready to plow under. A strawberry patch will not usually give more than two or three good harvests as a rule. After you plow under your strawberries, I would suggest that in the future you plant your strawberries in land not occupied by an orchard.

### Institute of Co-operation Now in Session

THE MONTHLY SESSION of the American Institute of Co-operation, which is held each year at some important point, is being held this year in the Wieboldt Hall of Commerce of Northwestern University in Chicago. As usual, the speakers include many of the most prominent authorities in the United States and a number from foreign countries. Subjects of outstanding importance are receiving attention.

Each year the institute is attended by several hundred persons interested in the marketing of agricultural products. Only a moderate charge is being made for attendance, the amount varying according to whether one attends for a day, for a week or for the entire four weeks. There is probably no better place in the country for receiving instruction in marketing matters. The large attendances of former years are testimonials in this direction.

The fourth week of the session this year, beginning July 11 and ending July 16, will be devoted chiefly to fruit and vegetable marketing. While the entire session will prove valuable to fruit and vegetable interests, the program of this week will be of particular value. The detailed program for the first four days, which was arranged by the committee headed by P. R. Taylor, director of the Pennsylvania Bureau of Markets, will be as follows:

#### Monday, July 11

Morning—Standardization and Inspection—Harry W. Day, Illinois Fruit Growers' Exchange.

Packing House Management—R. R. Pailthorp, Bureau of Agricultural Economics.

Increasing Efficiency—A. V. Swarthout, Bureau of Agricultural Economics.

Afternoon—Methods of the Ozark Fruit Growers' Association—P. A. Rodgers, sales manager, The Ozark Fruit Growers' Association.

Relations Between Local and Central Organizations—H. J. Ramsey, field manager, California Fruit Growers' Exchange.

Evening—Relation of the General Farmers' Organization to Co-operatives—L. J. Taber, master, National Grange.

Co-operation in California. (Illustrated)—H. E. Erdman, University of California.

Smoker.

#### Tuesday, July 12

Morning—Terminal Market Practices Affect-

# New Engine!

## GRAHAM BROTHERS TRUCKS

This is the finest engine ever used in Graham Brothers Trucks and Commercial Cars . . . Every advanced engineering feature that is proven.

See this new engine! . . . See it today! . . . Compare it with any engine ever built into any truck!

### GRAHAM BROTHERS

EVANSVILLE - DETROIT - STOCKTON  
A DIVISION OF DODGE BROTHERS, INC.  
GRAHAM BROTHERS (CANADA) LIMITED, TORONTO, ONTARIO

**\$670**  
¾-TON

**\$885**  
1-TON

**\$1245**  
1½-TON

**\$1445**  
2-TON

Chassis prices,  
f. o. b. Detroit

## MORE POWER—MORE SPEED FASTER ACCELERATION MORE ECONOMY—MORE VALUE

#### Thursday, July 14

Morning—Inspection Trip of South Water Market and Poultry Terminal.

The Co-operative Ownership of Market Facilities—A. H. Welch, president, South Water Market Trust.

The Fruit Auction—F. E. Nellis, president, Chicago Fruit Auction Company.

Afternoon—Co-operative Farmers' Markets—C. W. Waid, Ohio Department of Agriculture.

The Co-operative Commission House—E. J. Orvis, Cleveland Growers' Marketing Company.

The remaining two days of the week will be given over chiefly to poultry marketing subjects.

Department—E. D. Dow, Florida Citrus Exchange.

#### Wednesday, July 13

Morning—Securing Maximum Distribution—H. M. Robinson, Hastings Potato Growers' Exchange.

Financing Fruit Marketing—Ward M. Buckles, Federal Intermediate Credit Bank of Spokane.

Co-operative Commodity Advertising—Frank M. Swett, California Pear Growers' Association.

Afternoon—Problems of the Export Market—Edwin Smith, Bureau of Agricultural Economics.

The Utilization of Surplus—Herman Ullsperger, Door County (Wisconsin) Fruit Growers' Union.

ing Co-operatives—A. R. Rule, Federated Fruit and Vegetable Growers.

What is the Best Sales Policy for a Central Selling Agency?—F. O. B. Sales, A. B. Leeper, Illinois Fruit Growers' Exchange.

Delivered Sales, W. D. Bennett, California Fruit Exchange.

What is the Best Sales Policy for a Local Association?—F. O. B. Sales, L. T. Chase, Paw Paw (Michigan) Co-operative Association.

Consignment, E. A. Flemming, Marietta (Ohio) Truck Growers' Association.

Afternoon—

The Services of a Statistical Department—Harry M. Creech, Sun-Maid Raisin Growers' Association.

The Work of a Traffic and Claim

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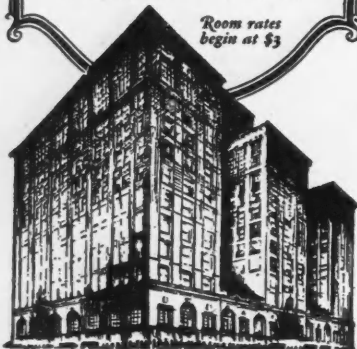
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## The Refrigerator Car and Its Influence

(Continued from page 3)

6000 cars, was the largest car line owned by a carrier.

In 1906 the Southern Pacific and Union Pacific purchased certain property and interests from Armour, and placed orders for the construction of 6600 cars, which were operated by the Pacific Fruit Express Company, organized and incorporated specifically for the operation of the refrigerator car business of these lines.

### Figures Show Tremendous Growth

An idea of the increasing number of refrigerator cars owned by the railroads and subsidiary car lines can be gathered from the following figures:

Year.	No. of Refrigerator Cars
1885 .....	990
1890 .....	3,398
1895 .....	7,043
1900 .....	10,760
1905 .....	24,570
1921 .....	99,672
1924, Jan. 1 .....	117,212
1924, July 1 .....	121,832

The nine largest refrigerator car lines in the United States are as follows:

Car lines.	No. of Cars
Pacific Fruit Express Co. ....	32,880
Santa Fe Refrigerator Dispatch ..	15,922
Fruit Growers' Express .....	16,266
Merchants' Dispatch, Inc. ....	11,443
American Refrigerator Transit Co.	7,324
Illinois Central .....	5,755
Western Fruit Express .....	5,123
Northern Pacific .....	4,768
Chicago, Burlington & Quincy ..	3,335

### Efficiency of the Modern Refrigerator Car

Of late years, with the increasing production of all classes of fruits and vegetables, and with keener competition from producing areas all over the country, the trade of necessity, and, in fact, the consumer, also are paying more and more attention to such fundamentals of quality as size, color, flavor and maturity. For these reasons, it is important that growers throughout the country should become acquainted with the possibilities and limitations of the car which is transporting so much of their produce to the consumer. With this thought in mind, a group of California shippers, co-operating with the Southern Pacific Railroad, made a very careful test trip in the summer of 1924 with some six cars of various kinds of fruit loaded at California producing points and shipped across the continent to Chicago and New York City. The fruit itself was selected from valley and hill points in order to obtain checks on both types of fruit. The cars were routed in the usual manner taken by transcontinental fruit shipments over the Southern Pacific, Union Pacific, Illinois Central, Indiana Harbor Belt Line, and the Erie railroads to New York City. This routing represents typical conditions as encountered in the actual movement of fruit to eastern markets, and the results obtained should be fairly representative of conditions existing throughout the country.

### Objects of the Test Trip

The object of the test was to obtain, in the first place, accurate and dependable data regarding the variations in temperature within standard refrigerator cars loaded and shipped under standard conditions; and to find out, if possible, the most favorable locations in the car for highly perishable fruits. Certain other studies were undertaken in order to ascertain facts which would improve present methods and practices. Each of the six cars in the test was equipped with what is known as electrical resistance thermometers supplied by the United States Department of Agriculture. These thermometers were checked and tested very carefully in order to insure a high degree of accuracy. The thermometers were arranged at a number of different positions in each of the six cars, both in the fruit and in the air so as to give a true cross-section of actual temperature conditions en route from California to New York City throughout the load. The differ-

(Continued on page 18)

## Markets and Marketing



**CONSUMPTION** of fruits and vegetables in the United States is now about twice what it was 10 years ago, according to the Bureau of Railway Economics, which has recently reported the results of the survey in a bulletin.

During the years 1917 to 1919, the annual average rail shipments of the sixteen principal fruits and vegetables amounted to 478,540 carloads. For the years 1924 to 1926 the annual average was 848,099 carloads, which was an increase of 77 per cent compared with 10 years ago. In contrast with this increase, the total population during that period increased only 12 per cent.

"In general," according to the study, "the greatest increases took place in those fruits and vegetables which, because of their highly perishable nature, have heretofore been regarded largely as luxuries, or delicacies, but have now become items of common consumption. Increases in the commoner staples ran generally less than 100 per cent; white potatoes, for example, showed an increase of 46 per cent; sweet potatoes, 60 per cent; apples, 73 per cent; lemons, 66 per cent; cabbage, 63 per cent; onions, 54 per cent; and tomatoes, 83 per cent. On the other hand, perishable products showed striking increases much in excess of 100 per cent; lettuce, for instance, increased 440 per cent; grapes, 216 per cent; grapefruit, 202 per cent; and celery, 188 per cent.

"The increased amount of this type of agricultural products raised by producers, brought to large markets by the railroads, and offered to the general public at prices within their reach, has caused a great increase in their consumption by the American people. Only the closest co-operation between producers, distributors and transportation agencies has made this growth possible.

"The bulletin also shows the wide rail distribution of these 16 fruits and vegetables. The city of Chicago, for instance, in 1925 was served with white potatoes shipped by rail from 37 states, sweet potatoes from 16 states, cabbage from 22 states, onions from 20 states, lettuce from 13 states, tomatoes from 17 states, cantaloupes from 14 states, apples from 25 states, peaches from 19 states, and strawberries from 15 states."

**WELLS A. SHERMAN** of the Bureau of Agricultural Economics became chief of the California Division of Markets June 1, with headquarters at Sacramento. Mr. Sherman has been released temporarily by the United States Department of Agriculture to take charge of this work in order that a correlated method of handling the work of the California Department of Agriculture and the federal Bureau of Agricultural Economics may be developed.

The plan of action under way was undertaken following a conference held by Governor C. C. Young, Director G. H. Hecke of the California Department of Agriculture and Lloyd S. Tenny, chief of the Bureau of Agricultural Economics. Mr. Sherman was selected because of his extensive experience in the marketing field. He assisted in organizing the federal Bureau of Markets in 1913. He developed the first market news and shipping point inspection service for fruits and vegetables and has played an important part in other organizations of marketing work. The correlation of the marketing activities of the California Department of Agriculture and the federal Bureau of Agricultural

Economics will be important not only for the state of California but for the country in general. Marketing leaders in other sections will no doubt watch this step with great interest. If the plan brings about results of importance, there is little doubt but that similar developments will take place in other states.

**THE EAGLE LAKE** canning factory of Winter Haven, Fla., has shipped 55,000 cases of canned grapefruit during the past season. Since each case holds 24 cans, the output consisted of 1,320,000 cans of fruit. During the last week of the season, a total of 11 carloads, consisting of 11,000 cases, was shipped.

During the season, grapefruit shipments were made to England, France, Germany, Denmark, Fiume, Italy, Budapest, Hungary, Australia, Montenegro, South Africa, Peru and Canada. In the United States shipments were made to San Francisco, Calif., Seattle and Spokane, Wash., Portland, Ore., and New York, N. Y. The factory paid to growers for fresh grapefruit the sum of \$62,000.

During the present summer the plant is being overhauled and \$10,000 will be spent in improving the equipment preparatory to the handling of a much larger pack next season. The packing house is owned by an association composed of stockholders of the Florida Citrus Exchange in the Winter Haven, Eagle Lake and Lake Alfred sections.

**IN SPITE** of the large consumption of eastern grown fruit, Pennsylvania's largest markets received 9081 cars of citrus fruits in 1926. This represents an increase of 817 cars over 1925. It appears that Pennsylvania consumers, notwithstanding the relatively low prices of eastern grown fruits, were willing to pay increased transportation costs in order to secure the desired quantities of oranges, grapefruit and lemons.

Oranges were the most popular citrus fruit, 6449 cars being received as compared with 1451 cars of grapefruit and 1181 cars of lemons. California supplied nearly 300 more carloads of oranges than Florida and in addition all the lemons, except a few that were imported. However, since the grapefruit were received almost entirely from Florida, the total receipts of all citrus fruits were nearly 100 cars greater from Florida than from the Pacific Coast.

**DURING** March, the Kentucky court of appeals rendered an interesting judgment pertaining to a shipment of perishables from Mississippi to Louisville, Ky. According to W. G. Heimendinger, who brought the suit, the products were in good condition when loaded and were carefully inspected before they left the loading point. It was proved by witnesses that the car was thoroughly iced before being loaded at the starting point and was again iced before leaving and also iced at different places between the points of shipment and destination. It was established, however, by the complainant that the products were in poor condition when the car was opened at Louisville, due to the car being too warm and not being properly refrigerated.

Mr. Heimendinger won his case in the lower court and the court of appeals confirmed the judgment of \$900 which was given in the lower court.



for July, 1927

AT THE recent Pan-American Standardization Congress held at Washington, D. C., Lloyd S. Tenny, chief of the Bureau of Agricultural Economics, stressed the standardization of products as a fundamental factor in successful marketing. He also described the development of the bureau of standardization work since 1914, when a market news service on fruits and vegetables was first established. At the present time, standards for more than 50 farm products have been established by the bureau and are in wide use.

ON MAY 29, the following increases on import duties into Mexico became operative:

Olive oil weighing with immediate container up to 50 kilos, in wood or tin containers, from 12 to 40 pesos. Olive oil weighing with immediate container up to 50 kilos, in wood or tin containers, from 12 to 50 pesos.

The usual surtax of 12 per cent of the amount of duty will be levied in addition. A peso is equal to about 50 cents in United States money.

FOR THE first time in years, strawberries were shipped east from southern California this year. On May 15, 33 cars had been shipped, 31 of which came from Moneta and two from Los Angeles. The cars were inspected in all cases by representatives from the county horticultural commissioner's office.

Rigid inspection has been necessary to prevent deceptive packing of the product. Up to May 15, 34 strawberry growers were brought into court in Los Angeles county for deceptive packing. In each instance, the violator was fined \$100 and given a 30-day jail sentence. The jail sentence and \$75 of the fine were suspended for a period of one year.

THE TEXAS legislature recently passed a strict law which is designed to prevent the shipment of immature citrus fruit. The law provides for the inspection of shipments throughout the marketing season. It is unlawful now for anyone to offer for sale any fruit that is immature, over-ripe, frost damaged or otherwise unfit for consumption. No fruit can be sold, transported, received, or delivered between August 31 and December 15, unless it is accompanied by a certificate of inspection.

### Monthly Market Review

THE FOLLOWING summary of the fruit marketing situation was furnished by the United States Bureau of Agricultural Economics on June 10:

"Produce shipments have been moderate for the time of year. The season is still a week or more late, being especially backward in the North and West, although the Central Plains region has been catching up a little the past month. From Virginia southward and as far west as the Mississippi, the crops are still ahead of average time. Ripening has been hastened and yield cut down by severe drought in Georgia and adjacent states, in fact, through most of the southeastern region. The earliness and shortage in the South and lateness in the North and West made something of a gap in the shipping season, leading to quite an upturn of prices the first part of the summer. There is nothing like a shortage because of the increased acreage of many crops. Strawberries, for instance, have been in heavy supply notwithstanding a good deal of damage from frost and drought in some sections.

"Weekly shipments of fruits and vegetables in May and early June were running about 15 per cent lighter than last season. Old potatoes and apples were dwindling to the end. Western stuff was starting late. Supplies slackened down especially in potatoes, cabbage, onions and lettuce. What may be termed the raw foods, including berries, melons, tomatoes and grapefruit, continued in heavy supply, but on the whole there was

less market pressure and over-supply than is the usual thing in May and June. More competition is in sight from delayed western sections. The floods have not had much to do with the situation in fresh produce. The reduction in shipments of fruits and vegetables because of flood damage alone could hardly have exceeded 2000 cars. Most of the early vegetables in the lower part of the valley have been shipped out and the tender crops had not been planted in the upper valley. There will be more or less delay in the crops because of the overflow, but the region as a whole was not a truck shipping country.

#### Medium Apple Crop Expected

"Only a fair crop of apples is indicated. There was frost injury in the Virginia-West Virginia region and some drought damage further south. The set is reported not very heavy in most parts of the Middle West on account of unfavorable weather conditions, and there was considerable frost injury in the Northwest. Western New York and other northern and

eastern sections appear now to have suffered less than the others, but the season is late and trees are somewhat weakened from heavy bearing, which makes the outlook still uncertain. In general, a few sections which had a light crop last season are setting the most fruit this summer.

"Good apples sold well toward the end of the season. Georgia Transparent started in June at \$4 to \$4.50 per bushel in New York. Standard grades of Baldwins went at \$4 to \$5.50 per barrel and some lines of Winesaps, Newtowns and others higher. Western boxed Winesaps remain steady at near \$2 at shipping points and \$3 in the city markets. Albemarle Pippins sold as high as \$12.50 per barrel in England. Exports continued active unusually late in the summer. The new supply from Australia is proving very moderate. Exports from that country were reported lightest in 20 years and amounted to only about one-third of the shipments of last season. Late keeping American fruit in good condition was in demand throughout the spring months in Ger-

many and England. The condition of the coming crop in Europe is uncertain. Some reports indicate another season of failure for the English apple crop; others suggest only moderate damage. This will be the third year of light production in England, but the effect of a single hard frost is seldom as severe as expected. Apparently some late blooming varieties were not far enough along to be fully exposed.

#### Southern Peach Crop Reduced

"Early indications of a large southern peach crop have been decidedly cut down as the result of frost followed by drought. May estimates were mostly not far from 15,000 carloads, but some further reduction in quantity and more or less injury to size and quality seems to have resulted from continued dry weather in Georgia and other southeastern peach sections. Shipments started earlier than last season, but quality of early fruit as usual was not high. Prices have ranged at \$2 to \$3.50 per six-basket crate in northern markets."



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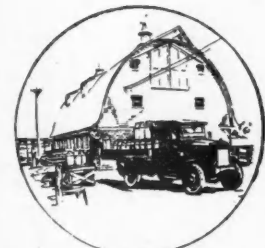
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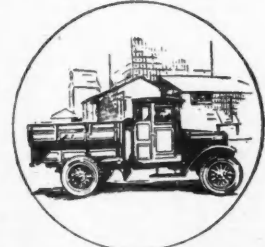
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# The Orchard Home Department

## A Little Boy's Sacrifice

**HUMAN SACRIFICE** is, of course, utterly abhorrent as a hideous crime against nature, but offerings to a superior being, however childish and ignorant they may be, are the natural expression of that piety which is inborn in man and lies at the root of all religion.

In this connection, I recall the touching story of a little Dakota Sioux Indian who, because his mother survived his birth but a few days, was known as Hakadah—"the pitiful last." The boy was given to his grandmother, who was a remarkable woman for any race or age, and he was very carefully brought up in the practice of every Indian piety and virtue.

When but eight years old, he returned one day proudly from his chase in the forest with his dearly beloved companion, the dog Ohitika. Throwing down at the feet of his grandmother a bunch of game, squirrels and small birds, he cried, "Uncheeda, see what I have brought you! The arrows themselves had eyes this morning and followed the squirrels round the trees."

### A Brave Must Sacrifice

After admiring his gifts and his prowess, the wise Uncheeda said: "My boy, you are now grown to be almost a Brave. See the game you have brought me. It is time you should make your first offering to the Great Mystery. For this you must sacrifice your dearest belonging."

Flushed with excitement, the little Hakadah first offered to sacrifice his cherished bows and arrows and paints, but Uncheeda shook her head. Then, said he, "I will give my necklace of bear's claws and otterskin head-dress." But "Think again my boy," said Grandmother.

### It Is Not Enough

Poor little Hakadah! It was growing serious. There was something still more precious than the prized possessions he had mentioned. He gulped hard and said, "I will give my spotted pony, but I am sure the Great Mystery will not require a little boy to make him so large a gift."

Then Uncheeda spoke to the boy of the Great Mystery, of his majesty, and of the blessings he brought to their people, and of how nothing could be held worthy as a gift save the special possession that lies nearest to the heart of the giver. "Grandmother," replied the tiny Brave, "I will give up anything I own for the offering to the Great Mystery. You may select what you think will be most pleasing to him."

### The Ultimate Sacrifice

Then, very gently, because of the great love she bore her boy and the pity she felt for the hurt she must give him, Uncheeda spoke thus: "Hakadah, you are a young Brave. Though young, your heart is strong and your courage great. You must give up Ohitika."

Ah! he had never even thought of that. His friend, his well-nigh human companion to be offered up. The shameful tears almost fell. "Grandmother," he quavered, "my Brave will have to die."

### Bids His Friend Farewell

But he would allow no hand save his own to deck the sacrifice. Leading his playfellow into the tepee, he carefully painted him black and red according to usage, and with his arms around the dog's neck, sang a dirge in which he told his dear Ohitika how he would never forget him and always in the chase would recall his prowess.

Then, blackening his own face, he led the dog out and announced his readiness to go to the cave of the Great Mystery. Uncheeda, however, with her own barbaric interpretation of the Christian saying that the Lord loveth a cheerful giver, pointed out to him that he must not present his

offering mourning. So, while the little fellow went to wash his face, the dog was led off by a neighbor woman, and presently Hakadah set out hand in hand with Uncheeda, his grandmother, followed by the bearer of the slain Ohitika.

### Uncheeda's Prayer

Wending their way through the forest to a high bluff above the river, they came upon the opening of the large cave where dwelt the Great Mystery. Here, at the entrance, the sacrifice was laid with suitable ceremonies. Then Uncheeda invoked the spirit in a simple and beautiful prayer, asking the Great Mystery to look with favor upon this child who here offers his dearest possession, to prosper him and make of him a Brave worthy of his great ancestors.

And though it was not until many years later that this same little Hakadah came to be known as Charles Eastman, and turned to the white man's ways, and worshiped in the white man's church, and wrote these memories of his own Indian boyhood, I fancy that the God of Christians did, at Uncheeda's prayer, look with favor upon the sacrifice of a little child who overcame his own grief and offered his most cherished treasure that he might worthily serve the Great Mystery whom, under another name, we all adore.

## The Hostess Introduces

**HOW FORTUNATE** it is that the rigid forms of etiquette which once prevailed are now discarded. We need no longer tremble when in "polite society" lest we offend whatever gods there be who preside over social usages.

Most women are alert to the small social observances and conduct themselves gracefully in company. Many are gifted with a responsive agreeable manner and with that consideration for others which is the very essence of good breeding.

Putting people at their ease is the peculiar province of the hostess. Success or failure of an entertainment depends mostly upon her. A note of personal interest in her greeting of each guest, serves to make the most timid feel securely welcome.

### Attention to Strangers

When strangers are among the guests, these should be the object of the hostess' special care. She is the one chiefly responsible for seeing that they meet those persons who will insure their enjoyment of the occasion.

The introduction is an art in itself. Simple, indeed, it should be, the simpler the better, since simplicity does away with stiffness.

"Be sure you're right, then go ahead." The hostess who knows she is doing the right thing in the right way is charmingly self-possessed. But what is the correct form of introduction?

### Who Comes First

A primary rule is that the socially more important person is mentioned first in an introduction. The ear alone, readily detects the awkwardness of saying, for instance, "Sallie, allow me to introduce Her Majesty, Queen Marie."

"Ladies first" holds good in introductions. The man is always presented to the woman, not she to him. Age also, is considered, but best go easy here. Unless the difference in years be very decided, few women will appreciate a distinction conferred by age alone. Since the guest of honor and the stranger should receive special attention, they usually take precedence in an introduction.

### Don'ts and Do's

As for the spoken form—the DON'TS are the more important.

"Shake hands with Miss Ritter." "Meet Mr. Smith." "Let me make you acquainted with —" are heavily blue pencilled by the social arbiter. Away with such formulas! And who, pray, with the self-respect of a poly-wog, would acknowledge an introduction with "Pleased to meet you?"

Examples of unobtrusive good form are "Miss Ritter, may I introduce Mr. Smith?" or "Mr. Perry wishes to be presented," or "Is anxious to meet you." Less formally one may say, "Miss Ritter, this is my brother Bob," or "Miss Robertson, do you know Miss Andrews?" To which one may reply, "I am delighted to know you, Miss Andrews," or even "How do you do, Miss Andrews?" is sufficient acknowledgment if cordially pronounced.

### What's in a Name?

Lucky is the hostess who has the knack of breaking the ice with some appropriate remark which may form a link between the two who have just met and which may serve, so to speak, as a flying start for further conversation.

Alas! Alas! for her whose memory for names is uncertain. Is there one among you who has not taken advantage of surrounding conversational hum, to drop the voice and casually, almost inaudibly, murmur "Miss Hohahum, this is my friend, Mr. Umptymum?"

The unfeeling authority on etiquette denounces this as an utterly unworthy subterfuge. You should blush for shame at this cowardly device. I'm blushing reminiscently at this very moment. In the interest of clearness, we are advised it is better to remark jauntily, "Forgive me, I cannot at this moment recall your name." But how about that if it is a name you have no possible excuse for forgetting? Here we meet a social impasse, and here I leave you to your own ingenuity or disgrace.

## Learn the Law, Save a Life

**THE PROGRAM** for highway construction this year is, to say the least, impressive. Upward of \$1,120,000,000 will be spent in the United States "on highway construction, maintenance and bridge building." This means that we shall add nearly 27,000 miles of new road to the 239,847 miles which we already have. We shall soon be able to go in an automobile anywhere we wish.

But will we reach our destination safely? The number of injuries and fatal accidents continues to rise with the ever-increasing number of motor cars. It is estimated by the secretary of the Aetna Life Insurance Company, R. I. Catlin, that 23,000 persons lost their lives in auto crashes in 1926.

As might be expected, the motor menace to life and limb appears to reach its climax in New York City. The showing for the 12 months of the past year gives an average of two deaths to every five blocks of First Avenue, and 15 injuries per block of that avenue.

Country roads have their tragic collisions as well as city streets. There is an advance everywhere in the inclination of the public to obey traffic regulations. Even children are now carefully instructed in traffic rules, but the rules are somewhat confusing.

Varying regulations in different states contribute to the insecurity of both motorists and foot passengers. In one state, pedestrians must walk to their left on the road and face the oncoming traffic. Just over the state line, it may be that vehicles and walkers alike are required to keep to their right.

In some states, vehicles coming out of a local road to the right of highway traffic, have the right of way over motorists on the highway. The obvious folly of this is that at the

legal rate of speed on the highway, it is often impossible to see the obscure opening of the local road in time to avoid collision with a rapidly driven car coming out of it.

This is so apparent a danger that few motorists coming from a side road onto the highway fail to take the precaution of slowing down for their own safety. Probably they are familiar with the sad story of "William Jay, who died maintaining his right of way. He was right, dead right as he sped along.

But he's just as dead as if he'd been wrong."

## Snake Bite

**OUR FEAR** of snakes is vastly exaggerated. Many entirely innocent species are credited with deadly poison. The ugly puff adder, or "spreadhead," for instance, has absolutely no venom. Though this has been proved beyond any doubt, it will be long before the general public accepts this adder as harmless.

Among the very few deadly serpents in the United States are the rattlesnake (including the copper head or rattle-snake pilot), and the cotton mouth moccasin. The coral snake, found in some far southern states, is also venomous. A few others carry some small degree of poison, and in cases of impure blood their bite might have serious results.

Immediate emergency treatment is desirable in every case of snake bite. On long rough camping trips, it is advisable to carry a hypodermic syringe with a solution of permanganate of potash. This is esteemed a certain remedy.

Lacking the hypodermic, a handkerchief or strip of cloth should be tied very tightly above the wound to prevent the spread of the poison to the heart. A stick may be used as a tourniquet to draw the bandage tighter. Slashing the wound to induce free bleeding, and sucking it to draw out the venom, are of great value. The last method should not be attempted by one who has any crack or sore about the mouth, lips, gums or tongue.

After bleeding and sucking, the wound should be cauterized. A knife blade, nail or any available piece of metal heated red hot, will serve if medical aid is not immediately available. A somewhat heroic measure suggested to hunters is to tear open a cartridge, pour a little powder into the wound and touch it off with a match. Bang! and the deed is done. But if the hunter has the ordinary quality of nerves, I guess he will jump so high over the moon that he will never come down.

A tourniquet, as described above, should be kept tight for 20 minutes then loosened for one minute, tightened again for 20 minutes, then loosened for two minutes, and so on for several hours, adding one minute to the interval between each tightening.

As stimulants for the weakness that often ensues, give one-half teaspoonful of aromatic spirits of ammonia in a little water every hour and half a cup of strong black coffee every two hours.

**ABILITY** to deal with people ranks first of all among qualifications for success, according to Prof. Hoopengartner, professor of business psychology in the School of Commerce, New York University. He teaches that success in any field of endeavor is due only 15 per cent to technical knowledge and 85 per cent "primarily to those qualities which have to do with successful dealing with people." Housekeepers and homemakers could probably have told the professor as much long ago. Skill in the matter of food, budgets, etc., may win the 15 per cent he allows, but the remaining 85 per cent needed to perfect the homemaker, must be scored by the method of dealing with people.



## South of the Rio Grande

(Continued from page 5)

is no need of such large production as occurs in the United States. Other important crops are hennequin, bananas, coffee, cocoa, coconuts, beans, flax, alfalfa, sugar cane, rubber, nuts, livestock and maguey. Numerous fruits are grown in addition to those mentioned, but there is only a local market for most of them, due to the quarantine laws of the United States.

### The Banana Industry

One of our most interesting days was spent at El Hule and Tuxtepec, which are located in the coastal plain south of Vera Cruz, about 18 degrees from the equator and in the same latitude as Yucatan. Both of these towns are located on the Papaloapam River, which is peaceable enough during the dry season but which becomes a raging torrent that floods a large area of bottom land in the rainy season. This repeated flooding keeps the land rich and no fertilizers whatever are used. The most important crop



Washing clothes by primitive methods. When a stream is available, the washing is commonly done on flat rocks at the water's edge.

is bananas, which are grown under American direction and in large areas by modern methods. About 300 cars are shipped out of this section each week on the average, and about 60 of these go out by rail over the Mexican and Missouri Pacific Lines, the remainder going out by steamer. The bananas are grown in the flat land along the river and are brought down stream on barges and rafts to the railway at El Hule or to boats further down on the coast.

The banana grows with great vigor. I saw a 10-months old plantation which was beginning to produce fruit. The stalks reach a height of 15 to 25 feet. A plantation is started by cutting up an old clump, much the same as we would split up a rhubarb crown. The pieces are planted about a rod apart each way. Tractors and disks are used in cultivating the crop. As the plants develop, the hills spread. In a fully developed plantation, it is apparently the intention to have about six to eight stalks in a hill at one time. Perhaps more than this do not develop, and perhaps the surplus, if any, is removed. A banana stalk produces but one bunch. The bunch is cut when the bananas reach a satisfactory size and before they begin to ripen. After a bunch is cut, the stalk bearing it is severed at the base, and another shoot from the crown is then allowed to take its place. The old stalk is chopped into short pieces, and under the moist tropical conditions, the fibrous growth rots very quickly. The disease which is giving trouble in Panama is not yet present in Mexico, and the crop seems to have no enemies whatever. The bananas are loaded in stock cars which are thoroughly lined with palm leaves.

### Other Crops

We also saw coconut palms growing at El Hule and Tuxtepec. The

large coconuts, borne in bunches near the tops of the trees, make a very pretty sight. Although it was around the first of April, we had a very fine fruit dinner at El Hule, at which ripe bananas, coconuts, tomatoes, watermelons, casabas and pineapples were served. The pineapple appealed to me in particular. Ripened on the plant, it had a most pleasing flavor.

Coffee is also grown extensively in this section. It grows on a treelike bush. The usual custom is to partly clear the timber and set the coffee plants in rows between the trees that are left. The crop seems to require partial shade for best results.

The thickness of the undergrowth down in these tropics is simply amazing. One can readily understand why reptiles can be abundant and also why malaria and other diseases of that nature are so prevalent. One can also imagine how the early explorers were compelled literally to cut their way through this growth.

### Culture of Maguey

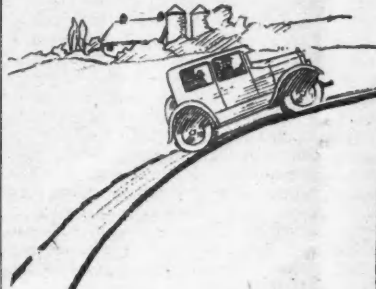
The maguey is a plant that is grown extensively in many parts of Mexico. This is the species of cactus from which the national drink of Mexico is made. In southern Mexico, the liquid is supposed to be drunk in the fresh condition before fermentation has started and it is there called pulque. In northern Mexico, the product is allowed to undergo a certain kind of fermentation and is there called tequila. What seems to be thousands of acres of this plant are grown in the vicinity of Mexico City. It seems to thrive under the driest conditions. It is said that about 2000 gallons of juice are required to meet the demand in Mexico City alone. When the plant reaches proper size, the central bud is cut out and a cup-shaped depression is made in the crown. After the juice accumulates, it is removed. In some places, it is said that the natives suck the juice from the depressions through long straws and then spit it into the containers. Sometimes when the pulque is not consumed while fresh, a kind of fermentation develops that results in serious consequences, including insanity. Although a number of our party were offered pulque and tequila, none of them, so far as I know, partook of any of it. Perhaps they thought they were crazy enough without it.

### Citrus Fruits

Besides bananas, pineapples and coconuts, Mexico grows a great variety of other fruits. In all probability, every tropical fruit grown can be produced successfully in Mexico. All of the citrus fruits grow well there. Immediately south of the Rio Grande is a large body of land fully as well adapted for citrus culture as that north of the river in the lower Rio Grande Valley. Due to lack of irrigation, this section is largely undeveloped. Some day it may be developed, and it can be, for the Rio Grande is largely fed by tributaries in Mexico, and water from these can readily be diverted for irrigation.

While at Tampico, we visited a citrus grove several miles out of the city. Incidentally, the auto ride which we took was the wildest one I ever made. Just how the Mexican chauffeurs make their American automobiles last, and just how they avoid getting killed four or five times every day, I am unable to understand. We found later that this was characteristic of Mexican chauffeurs in general. I shall never feel unkindly again toward Chicago taxi drivers. The citrus grove which we visited is owned by a Californian who foresaw profit by exporting fruit to the United States, but the quarantine laws killed the venture, and he now lives in California and visits the place about once a year. The trees show much neglect. The Valencia oranges were of splendid quality, as were the oranges I ate all over Mexico. Citrus fruits can be grown successfully over a large part

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of the country, but the United States quarantine laws prevent shipment to the states, thus keeping American and foreign capital out of this industry. At present, the products find a limited market in Mexico only.

### Deciduous Fruits

Deciduous fruits can be grown over most of the plateau. At the agricultural college at Celaya, which is north of Mexico City, Director Muris told me that plums, pears, peaches and apples could be grown successfully. At Tofrecon, F. F. Cardenas, a Mexican, told me he had 100,000 grapevines planted, consisting of Malagas, Muscats and Tokays. Thompsons do not do well there. He obtained 70 tons from the two-year-old vines last year. Citrus fruits, cantaloupes and plums also do well at Tofrecon. Of the plums, the Santa Rosa, Wickson and the French prune succeed especially well.

Strawberries are grown successfully over a large part of Mexico. We saw them in the markets in most cities, and we noticed many patches of them out in the country. They are quite commonly irrigated by means of wells, the water being raised by primitive hand methods in many places.

### Much Land Undeveloped

Although Mexico can grow a large variety of products successfully, it does not do so. There is a great deal of land adapted for agricultural pro-

duction, especially if irrigation were better developed. However, a comparatively small part of the land is worked, and in general the open country gives one an impression of barrenness and inadaptability for agricultural purposes. Of course, it must be borne in mind that Mexico has only about 16,000,000 inhabitants and that there is not the need for such large production as in the United States. It must also be remembered that we visited the country near the close of the dry season, at a time when vegetation would look its worst. Many peons were plowing their land preparatory to the planting of their crops just before the beginning of the rainy season; this method seems to be quite commonly followed.

### Primitive Methods Still in Use

The methods used in Mexican agriculture present some strange contrasts. Carts, ox teams and yokes are not uncommon. The wood plow with one handle is in general use, though most of them have steel points. Burros are quite numerous. They pull the large carts that one sees so often, and they carry on their backs great loads of wood, hay, bags of grain, cans and jugs of various liquids, and what have you? I saw men pumping water by means of primitive hoists, and I shall never forget the sight of a peon and his boy spinning rope by the most primitive method. Never-



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## Three New Steamers for Banana Fleet

THE UNITED Fruit Company recently added three new oil burning steamships to its fleet operating between New Orleans and its tropical plantations. These new ships will be additions and not substitutions for ships taken out of service, according to Crawford H. Ellis, vice-president. The three ships have a capacity of 4500 tons each, and they have accommodations for 50 passengers in addition. They will be able to transport 60,000 bunches of bananas each trip.

The operations of this company began in a small way in 1899. The fruit and import business now exceeds 14,000,000 tons a year. The carrying of passengers was started in 1907 and has increased a hundredfold.

theless, they were making an excellent product and were wonderfully dexterous in their work. I saw peons threshing with flails, and in one place I saw cattle tramping out the grain. The sight of women washing clothes on flat stones beside the streams, or in shallow box-like tubs where there were no streams, was very common.

The use of such methods is quite general, but there are many improved methods in use also. No doubt the examples set by the American operators, as well as by some Mexicans, have had their influence. I have already described the American methods used in the banana plantations. Improved methods are also employed in the great hennequin plantations. Around El Manuel, which is about 50 miles north of Tampico, we visited an American colony. Here the most modern implements are being used, including tractors, disk plows, two-row cultivators, row sprayers, etc. Tomatoes and peppers are grown extensively, the products being shipped to the United States.

### Some Improved Methods in Use

As one travels over the plateau, he sees numerous private irrigation projects. Much of the farming done in connection with these seems to be very well carried out. Around Torreón in particular, there is some very good farming. A great deal of cotton and grain is grown here. We visited two farms owned by Jesus Pananes, a Mexican. One consisted of 10,000 acres and the other of 42,000 acres. The latter place was irrigated by 22 wells, each about 320 feet deep. The water was raised by electrically driven pumps, the power being generated by two central stations which together cost about \$500,000. There was considerable stock on these farms, and excellent crops of wheat and cotton were being obtained.

A very good evidence of the use of better methods is shown by the increased sales of modern tools. Robert Mestayer, a Louisianian, who is in charge of the tractor division of the Ford Motor Company in the Tampico district, told me that his district had sold 105 tractors in the year ending in February as compared with 27 sold in the nine years preceding. The Mexico City district had sold an even larger number, he stated. The sale of tractors has not been emphasized before by the company, and the tractor department was established only last year. This circumstance indicates the field that exists for development, both from the standpoint of Mexico and the American business man. One American sewing machine company, I was told, sold 65,000 sewing machines in Mexico last year. We saw some of these as we glanced through the open doors of some of the peon homes, and they presented an interesting contrast with the dirt floors and other furnishings.

### Conclusions

Considering the situation as a whole, Mexico seems to be at the beginning of a tremendous awakening. Various influences are responsible, which I shall attempt to describe in succeeding articles. Evidences of these influences are seen on every hand. Public schools are being established rather rapidly, and it is said that the demands for education are such that all schools are crowded as soon as they are opened. The Mexican government is undertaking a program in which the great landed estates are being broken up and distributed in small parcels to peons. As part of this program, the government is also developing agricultural colleges, irrigation projects and federal loan banks. These movements arouse speculation as to what developments will take place in Mexico in the near future.

IN 1925, 325 stationary spray outfits and 18 portable outfits were sold in the Wenatchee district of Washington. Of the stationary plants, 276 were electrically driven. A. R. Chase, county agent, states that one-half of the 2500 growers in the Wenatchee Valley were using stationary outfits in 1926.

## CHATS WITH FRUIT GROWER'S WIFE

By HAZEL BURSELL



## Keeping the Kitchen Cool

OBVIOUSLY, any method, tool or utensil which will help to lessen the labor, time or heat in the kitchen in summer is bound to receive a joyous welcome from the busy farm housewife. There are many such articles on the market by which a great deal of comfort can be obtained for a small expenditure of money.

The first requisite for summer kitchen comfort is good ventilation. This may be achieved in a number of ways. A cross draft from well-screened windows and doors, which may be left open at all times, will in itself do much to keep the kitchen fresh and airy. A hood over the kitchen range with ventilator outlet into the brick chimney is also a great help, especially with any sort of forced draft system.

### Electric Fan Needed

The fortunate family which has electricity in the house needs never suffer from the heat if it will but purchase a good electric fan. A portable six or 10-inch fan, which may be used in the kitchen when needed there, in the living room in the afternoon, and in the upstairs hall between the bedrooms at night, will be one of the best investments ever made by members of the family, once it has been tried. The motor should be quiet running and should be kept that way by monthly oilings. Care should be taken to purchase a motor of the proper voltage and type for the current available (direct current or alternating current as the case may be). It's impossible to run a D. C. motor on an A. C. circuit.

If there are small children in the house, electric fans should not be treated as table portables, as their whirling blades constitute a real menace to exploring little fingers or to garments. Small high shelves opposite open windows or doors afford the best location for fans, both from the standpoint of safety and ventilating efficiency.

A two or three-burner oil stove which may be used either in the kitchen or on the screened back porch will go a long way toward making cookery a pleasure during hot weather. It will be found quite reasonable both as to original cost and operation. There is no object in pre-heating an oil burner and no long cooling process for the stove once the cooking is done, so the amount of heat radiated into the room while preparing a meal is small. The stove will last for many years if given any care at all.

### Insulated Bakers Helpful

There are two types of cookers on the market which enable the housewife to prepare a whole meal at one operation without heating up the kitchen in the least—the fireless cooker and the insulated cooker. The principle of the fireless cooker is well understood. In fact, many persons construct their own by carefully insulating a box of the proper size and arranging for heat with hot bricks, rocks or sand. (The article to be cooked would be put in the cooker hot in this case.) Compact, handleless containers are the only ones really suitable for use in the fireless cooker, as space is important.

The insulated cooker or baker is a more or less recent invention designed for use on the top of the stove. It is particularly satisfactory over oil or gas stove burners. The base of this utensil is made of cast iron with a hole in the center and with various other holes at the base, so designed

that the whole cooker will give the maximum of efficiency. A heavy cover with an asbestos interlining fits snugly over the base, and the pans used in baking sit between these two. Provided for use with the "bake pot" are several aluminum pans, all of which are necessarily circular in shape with holes in the centers. One pan is shallow and is adapted for baking such goodies as baking powder biscuits, a layer of cake, medium-sized apples, yeast biscuits, cookies and so on.

This shallow pan serves also as a basis pan in which to set custard cups. Four low, medium-sized custard cups will fit into the baker. Another of the pans comprises a ring of six muffin tins suitable for muffins, cup cake or drop biscuits.

Then there are deeper pans provided. Two that come with the pot are semi-circular in shape and fit together when both are in use. They may be used together for two different foods at the same meal, or one may be used alone in connection with the baking of potatoes. The potatoes would be placed directly in the pot itself. In these pans one may bake meat and fish loaves, scalloped dishes of all sorts, casseroled meats, baked puddings and custards, cakes and loaf bread.

### Usual Temperatures Advised

Experience with ordinary ovens will be valuable in determining the proper baking temperature for various foods in the bake pot. We know that cake requires a moderate oven, biscuits and pie a hot oven, custards and butterless cakes (sponge and angel cake type) a slow oven, meat loaves and potatoes a moderate oven, and so on through the entire list. By a little experimenting, the housewife can soon determine how much of a flame will be needed to approximate the required temperature within the bake pot. For a hot oven, she would "pre-heat" for five or 10 minutes. For slow oven mixtures, pre-heating is unnecessary.

It is fairly safe to say that no food will require more than a medium-sized burner turned on half-way. No absolute rule can be given, however, because sizes of flames vary. It is wiser by far to start the flame too low than too high. In general, the time required for baking is about the same as in a regular oven.

From the foregoing discussion it will be seen that either the fireless cooker or the insulated baker will afford an economical, efficient and comfortable means of preparing the family meals in warm weather.

To Ye Editor's way of thinking, a good refrigerator is an absolute "must have" on the list of summer comfort-givers. Much food will be saved that would otherwise go to waste, and dairy products, fruits, vegetables and meats can be kept in prime condition at all times only through the use of a refrigerator. Four or five dollars' worth of ice should keep an ordinary-sized ice box supplied throughout the summer, and this is a small price to pay for firm butter, sweet cream, cool beverages, iced fruits and ice-box desserts. The only care required for a refrigerator is an occasional thorough cleaning, ventilating between icings, and provision for good drainage. The ice box may be kept in the kitchen, on the back porch or in the basement, depending on the house arrangement and space available.

### Linoleum Desirable

An inlaid linoleum which may be



quickly wiped up with a mop every morning would prove a boon to good housekeeping at any season of the year, and summer is no exception. Light, airy curtains at the windows and light-colored, easily washed enameled woodwork will in themselves give an effect of coolness in the kitchen.

Vines and shade trees, properly placed and trained, will keep any house or room reasonably cool without assistance from any other source. Clematises, honeysuckles and wisterias may all be pruned and trained to shade the walls and roof of the house without darkening the windows. Clematises are the fastest growing vines of the three, but nothing can quite equal a lovely wisteria for sheer beauty. Vines also give an inviting, "homey" appearance to a house which can be secured in no other way.

The shade and seclusion afforded by good-looking awnings and porch shades should not be overlooked for the kitchen and back porch any more than for the living room and front porch, provided, of course, the culinary department faces to the south or west. The awnings should be arranged for convenient raising and lowering.

#### Do Cooking Early

Another system for keeping the kitchen cool is to arrange to complete all baking and other cooking processes early in the morning while the outside atmosphere is still cool enough to cool the kitchen. Cold desserts, salads, beverages and even vegetables and meats are really most appreciated for summer anyway. One hot dish with its cool accompaniments is always sufficient for the last meal of the day, so there is no need to worry about elaborate hot meals three times a day. Thus we can cook in the early morning for all day.

In our grandmother's day, it was the custom to have what was known

as a "summer kitchen"—a small separate building used for cooking during the summer so as to keep the house cool at all times. Out in this special shed or cabin they could keep a fire all day long for baking, canning or washing without increasing the temperature by a fraction of one degree in the house. It seems like a practical arrangement for farm homes in this day and age also.

Any one of the items suggested in this article should insure a reasonably cool kitchen for the housewife this summer, and several of them, correctly installed, should make for absolute comfort!

#### Eat Out-of-Doors

ONE OF my pleasantest memories of life on the farm concerns the evening meal for the family in summer. The table, one discarded years ago but which couldn't by any stretch of the imagination be classed as an antique, was set in the shade of a great ivy-clad live oak. Around this "board" with its red-and-white-checked cloth, members of the family gathered every evening for supper during the months of July and August. It was a period of relaxation and fun after a day of relentless toil. It almost amounted to a daily picnic.

Those who have large screened back porches will doubtless prefer that place for one or more meals a day. It's all a matter of convenience and preference. We liked our big tree. Those who have never tried the out-of-doors evening meal should try it during the hot summer months this season. We believe they'll become immediate converts to the practice. It's one case wherein we have it all over our city brethren—they have to travel miles before they can find even sufficient space to park the family automobile, while we can just step out into our yards.

### Recipes for Cool Desserts

WITH the advent of warm weather, when Old Sol does his best to make us uncomfortable and the thermometer soars, we crave all manner of cool things—cool swims, cool houses, cool auto rides and cool food. Yes, especially cool food! The farm housewife should procure a suitably-sized ice cream freezer, if she does not already possess one, and, with the assistance of strong arms to turn the crank, treat members of the family to all the sherbets, ice creams, parfaits and other frozen delicacies they may desire.

#### Fluffy Fruit Sherbet

Boil 3½ c. sugar and 3 c. water 5 minutes. Chill. Add 1 c. crushed pineapple, 1 c. pineapple juice, 3 crushed bananas and juice of 3 lemons and 3 oranges. Freeze. When nearly frozen, open the freezer carefully so as to keep all ice and salt out, and add 1 c. whipped cream or 2 beaten egg whites. Complete freezing and pack in ice for at least 1 hour.

#### Lemon Sherbet

¾ c. lemon juice Sugar to sweeten  
¼ c. cold water Whites of 2 eggs  
Mix water, lemon juice and sugar. Strain and freeze. When partly frozen add beaten egg whites and continue freezing. Pack in ice for 1 hour before serving.

#### Pineapple Ice

2½ c. shredded pineapple 2 c. cold water  
4 T. lemon juice  
Allow water to stand over pineapple for one-half hour. Thoroughly strain and squeeze through cloth. Pour into container and freeze, stirring constantly. Serve at once.

#### Strawberry Ice Cream

1 pt. milk 1 c. sugar  
½ pt. cream 1 pt. strawberries  
Pick over, wash and drain berries. Crush berries, add sugar and allow to stand half an hour. Strain and use only juice and pulp which passes through strainer. Place the cream and milk in the container and freeze for a time, then add fruit and continue freezing until of proper consistency. Pack in ice and let stand until needed for service.

#### Pineapple Pudding

Drain juice from 1 large can crushed pineapple. Add equal amount water, juice of 1 lemon and sugar to taste. Bring to a boil; thicken with 2 rounded tablespoons cornstarch; stir in 2 beaten egg yolks—then put back on stove for a few minutes. It is really best when made in the double boiler. Line a dish with macaroons, spread on a layer of pineapple (drained), then another layer of macaroons, and then pour on the liquid. Set aside to cool, or better still, put in the ice box to chill. Serve with whipped cream.

#### Butterscotch Parfait

Boil ½ c. white sugar, ½ c. brown sugar and 2 T. butter with ½ c. water until it forms a soft ball in cold water. Beat 2 egg whites, pour syrup over them.

Chill. Fold into ½ pt. whipped cream with 1½ c. drained crushed pineapple and 1 t. vanilla. Soak 1½ t. gelatin in ¼ c. cold water, then melt over hot water and add to first mixture. Beat thoroughly and put in icebox for 2 hours. Serve in parfait glasses topped with maraschino cherries.

#### Caramel Charlotte Russe

¾ envelope gelatin ½ lb. blanched almonds  
¼ c. cold water 1 pt. heavy cream  
1 c. sugar 1 t. vanilla  
½ c. boiling water 1 doz. lady fingers

Soak gelatin in cold water till swollen. Let stand over hot water until dissolved. Melt the sugar until it becomes a golden brown liquid, taking care not to scorch it, and add the boiling water slowly. Cool slightly and add dissolved gelatin. Set in pan of ice water till mixture begins to thicken and add chopped nut meats, cream beaten stiff and vanilla. Pour into a mould lined with lady fingers and chill. When firm remove from mould and garnish with whipped cream and bits of red jelly.

#### Grape Juice Cocomnut Souffle

1 T. gelatin 1 c. boiling grape juice  
¼ c. cold water 2 egg whites  
¼ c. sugar 1 c. cocoanut.

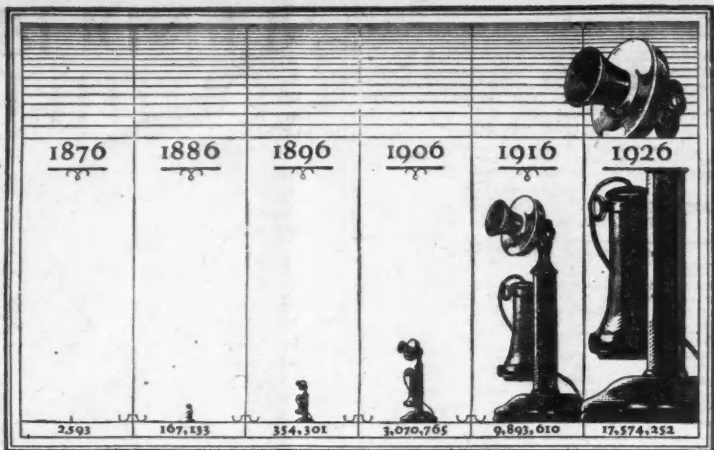
Soak gelatin in cold water 5 minutes. Add sugar and pour the boiling grape juice over it. Set aside until mixture begins to thicken. Beat with a wire whip or spoon until frothy. Add stiffly beaten egg whites and cocoanut and beat until stiff enough to hold its shape. Pile lightly in parfait glasses or glass serving dish. Top with whipped cream and sprinkle with cocoanut.

#### Fruit Cream

Peel 4 bananas, mash and rub through a sieve; add pulp and juice of 2 oranges, 1 T. grape juice, 1 T. lemon juice, ½ c. powdered sugar, and 1¼ T. granulated gelatin dissolved in ¼ c. boiling water. (It is best to soak gelatin in cold water before dissolving in hot.) Cool in pan of ice water, stirring constantly, and fold in ½ pt. cream, beaten stiff.

#### Table of Abbreviations

1 t. equals 1 teaspoonful.  
1 T. equals 1 tablespoonful.  
1 c. equals 1 cupful.  
1 pt. equals 1 pint (2 c.).



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## Developing the Local Fruit Market

(Continued from page 4)

a crate of eggs, neither of them very young, to a wholesaler and write a letter of misery to the *Rural New Yorker* if he doesn't get more than he was offered at the rural store. On the whole, the farmer fruit-and-vegetable-grower will do well to keep off the wholesale market. His market is at his door if he only knew it and would furnish quality produce, and if he will practice fair dealing and insist that he be dealt with fairly, he will succeed.

If it be argued that the shoemaker should stick to his last and the farmer stick to farming, I will be compelled to remark that the shoemaker who really does stick to his last (electric shoe shops these days) ends his days as a cobbler and the farmer who is content to follow beaten paths, usually ends where he began or is a little worse off.

It may be said, and I shall not disagree, that there are pitfalls in the path of the farmer who goes into fruit raising; that it is not all as fine in practice as in theory. I will insist however, that there is no good reason why he should stumble more than once into any of these traps and that every sound practice has theory for its background. The right and proper

place for the horse is in front of the cart.

## Summer Meeting of New York Society in August

THE SUMMER MEETING of the New York State Horticultural Society will be held at the experiment station at Geneva on August 10. Details for the program have not been perfected as yet, but one of the features will undoubtedly be the inspection of the large number of varieties of hardy fruits growing on the station grounds. The collection of small fruits is of special interest because many of the varieties will be in their prime at the time of the meeting.

Recent developments in spraying and dusting operations can also be observed in orchards and fields. Demonstrations of spraying and dusting machinery by the manufacturers will provide subject matter of interest to commercial growers. Other activities of the station which will be open for inspection are the new experiments of nursery stock production, variety tests, etc.

Mother—Robert, you're a naughty boy. You can just go to bed without your supper.

Bobby—Well, mother, what about that medicine I've got to take after meals?—*Boston Transcript*.



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**I WILL PROVE YOU CAN MAKE \$100 A WEEK** with my proposition. Marshall made \$80 in five hours. Remarkable new plan; write quick. Albert Mills, Mgr., 9096 Monmouth, Cincinnati, O.

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**"COVESVILLE ORCHARDS"**—ONE OF THE best commercial apple orchards in Virginia. 13,500 trees of which 12,500 are in full bearing, the balance of 1,000 trees being six years old. Finest winter varieties, Pippins, Winesaps, Yorks, Grimes Golden, Jonathans and Delicious. This orchard has had the best attention and is in splendid condition. Located on state highway 1 1/2 miles from railroad station. Large farm house and nine tenant houses, necessary outbuildings, packing shed, etc. Offered for sale at a sacrifice price of \$125,000, including equipment. H. W. Hilleary, Charlottesville, Va. H. T. Van Nostrand, Jr., Representative.

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**WANTED—HEAR FROM OWNER GOOD FARM** for sale. Cash price, particulars. D. F. Bush, Minneapolis, Minn.

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**WANTED—GIRLS-WOMEN, 18 UP.** Learn gown making at home. Earn \$35.00 week. Learn while earning. Sample lessons free. Write immediately. Franklin Institute, Dept. M-545, Rochester, N. Y.

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## MISCELLANEOUS

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**PLANTS, LARGE, OPENFIELD GROWN, LEAD-** ing varieties. Cabbage, 75c; 1000; collard, 75c; tomato, \$1.00; Porto Rico potato, \$1.75; Bell pepper, \$1.50; onion, \$1.25. Good plants, prompt shipment. Quitman Potato Co., Quitman, Ga.

## POULTRY

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**LEAF TOBACCO—GOOD, SWEET, CHEWING.** 3 lbs., 75c; 5, \$1.00; 10, \$1.75. Smoking, 3 lbs., 50c; 5, 75c; 10, \$1.25. United Farmers, Mayfield, Ky.

**BETTER TOBACCO! FRAGRANT, MELLOW!** Five pounds smoking, 75c. Four pounds chewing, \$1.00. Farmers' Club, 55, Hazel, Kentucky.

## Arizona Adopts Regulatory Measures

THE STATE of Arizona has recently adopted regulatory measures intended to check the spread of insects from California. Recently 17 lots of citrus trees received from Los Angeles county, representing over 11,000 trees, were passed through a vacuum fumigator in Los Angeles and given a clean bill of health by the Los Angeles county horticultural commissioner's office.

SLENDERIZING LINES  
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## No. 3000—Simplicity and Smartness.

Cuts in sizes 16 and 18 years, 36, 38, 40, 42 and 44 inches bust measure. The 36-inch size requires 2 1/2 yards of 36-inch material with 1/4 yard of 32-inch contrasting.

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40-inch material with 1 1/2 yards of 27-inch contrasting.

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Cuts in sizes 2, 4, 6, 8, 10 and 12 years. The 8-year size requires 1 1/4 yards of 36-inch material.

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Cuts in sizes 18 years, 36, 38, 40, 42, 44 and 46 inches bust measure. The 36-inch size requires 2 1/2 yards of 36-inch material with 1 1/4 yards of 27-inch contrasting.

## No. 2718—Junior Frock.

Cuts in sizes 6, 8, 10, 12 and 14 years. The 8-year size requires 1 1/4 yards of 36-inch material with 1/4 yard of 36-inch contrasting.

## No. 2321—One-Piece Dress.

Cuts in sizes 16 years, 36, 38, 40 and 42 inches bust measure. The 36-inch size requires 3 yards of 40-inch material.

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Enclosed find.....cents for which send me the following:

Pattern No.....Size.....Pattern No.....Size.....

Name.....Address.....

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## Administration of Produce Agency Act

(Continued from page 7)

poultry products, or any perishable farm products of any kind or character.

Paragraph 6. Good and sufficient cause.—This term with respect to destroyed, abandoned, discarded or dumped produce, shall be deemed to mean that the produce so dealt with had no commercial value, or that some other legal justification for so dealing with such produce existed, such as an order of condemnation by a health officer or definite authority from the shipper.

## Regulation 2. Administration

Section 1. The Chief of Bureau shall perform for and under the supervision of the Secretary such duties as the Secretary may require in enforcing the provisions of this act and these rules and regulations.

## Regulation 3. Violations

Section 1. Any person receiving produce in interstate commerce or in the District of Columbia for or on behalf of another who without good and sufficient cause therefor shall destroy, or abandon, discard as refuse, or dump any produce directly or indirectly or through collusion with any person, shall be considered to have violated the act.

Section 2. Any person receiving produce in interstate commerce or in the District of Columbia for or on behalf of another shall be considered to have violated the act if knowingly and with intent to defraud he makes any false report or statement to the person from whom such produce was received concerning the handling, condition, quality, quantity, sale or disposition thereof.

Section 3. Any person receiving produce in interstate commerce or in the District of Columbia for or on behalf of another shall be considered to have violated the act if knowingly and with intent to defraud he fails truly and correctly to account to the person from whom such produce was received for the actual price received for that specific produce, and the actual expenses incurred and charges made incident to the handling and disposition of the same, unless a different basis of settlement is agreed upon between them.

## Regulation 4. Certificates of Inspection

Section 1. The following classes of persons are hereby designated to make investigations regarding the quality and condition of produce received in interstate commerce or in the District of Columbia, and to issue certificates as to the quality and condition of such produce which is to be destroyed, abandoned, discarded as refuse, or dumped, upon application of any person shipping, receiving or financially interested in such produce:

(1) Any authorized inspector of the United States Department of Agriculture under the Farm Products Inspection Law;

(2) Any health officer or food inspector of any state, county, parish, city or municipality.

Section 2. Any certificate under the act must identify the particular lot of produce inspected, give the date upon which the inspection was made, the approximate quantity of the produce, the name and address of the agent handling the same, the fee, if any, charged therefor, and shall state the quality and condition of such produce and that it was without commercial value at the time of the inspection.

Section 3. Application for an inspection under the act must be made or confirmed in writing to the person requested to make such inspection. The application must show the name and address of the shipper, the name and address of the applicant, the location and description of the produce, with marks, brands, or other specific identification if practicable.

Section 4. Any person issuing a certificate under these rules and regulations must mail a copy of the certi-



Act promptly to the Chief of Bureau. (See Regulation 1, Sec. 2, Paragraph 4.)

Regulation 5. Filing of Complaints

Section 1. Any person having reason to believe that the act has been violated should submit all available facts with respect thereto to the Chief of Bureau for investigation and appropriate action.

### Nectarines Deserve More Attention

(Continued from page 7)

California nurserymen, and a few of them are sold by nurserymen in the East.

**Some Promising Varieties**

Advance is much the earliest nectarine. The flesh is greenish white, free from the stone, sweet and rich.

Boston is still a favorite in greenhouses and gardens in the East. It has been grown since 1830 in the United States. Boston was raised from a peach stone planted by T. Lewis, Boston, Mass., early in the last century. The flesh is yellow and free from the stone, the quality good, and the season rather late.

Downton is considered one of the best commercial varieties, having great productiveness of the trees to recommend it. It is a second early sort, ripening at Geneva, N. Y., early in September. The flesh is pale green, free from the stone, and the quality very good.

Elrue is one of the oldest nectarines and is still offered by some eastern nurserymen for fruit fanciers' collections out of doors or indoors. It is a beautiful nectarine with crimson cheek and rich, white, juicy flesh which is free from the stone.

Hardwicke is a favorite nectarine in southern California, being one of the heaviest and one of the most dependable bearers. The flesh is greenish, rich and sweet, and free from the stone.

Hunter is a new sort which originated on the grounds of this station a few years ago. The tree is large, vigorous, hardy, healthy and productive. The fruits are large, handsomely colored and splendid in quality. Hunter is being sent out by the New York State Fruit Testing Association of this city as the best midseason nectarine for the East.

Out of more than 50 nectarines that have fruited at one time or another on the grounds of the New York State Agricultural Experiment Station, Newton is the best old sort. The fruits are large, attractive and splendid in quality. The nectarines ripen late, have pale green flesh, which is free from the stone and which has a particularly sweet, almond-like flavor.

Victoria is occasionally found in America under glass, and on the grounds of this station, it thrives particularly well out of doors. It should be tried wherever nectarines are grown. The fruits ripen late, and the flesh is white, melting, sweet and rich, and free. The stone has a large kernel similar in taste to, and nearly as good as, that of the best sweet almonds.

United States Has Seven Nitrogen Plants

FIVE years ago the United States had no plants for the fixation of atmospheric nitrogen. Now it has seven synthetic ammonia plants with a capacity of 80 tons a day. None of the output is going into agricultural use. However, it is forcing larger quantities of by-product ammonia into the fertilizer market.

Germany produces about 70 per cent of the world's production of atmospheric nitrogen. In 1925, the world's production of nitrogen by atmospheric fixation was 607,000 metric tons compared with 340,000 metric tons of Chilean nitrate and 330,000 metric tons of by-product ammonia. Nearly 90 per cent of this total of 1,277,000 metric tons was probably used in agriculture.

## Engineering for the Fruit Grower

By E. W. Lehmann

### Filtering Cistern Water

A CLEAN supply of soft water is a boon to every housewife. Few supplies are adequately filtered and the result is a discolored supply that is hardly fit to be used. The cut shown herewith illustrates a plan of a filter, made available by the Illinois Agricultural Experiment Station, to fill a need that is evident from the number of people who request such a plan.

The principal features of this filter are easily noted: First, there is the overflow and screen to remove leaves and any particles carried down from the roof. Second, the self-clearing action obtained by opening the valve in the waste pipe allows all water in the entrance side of the filter to flush out,

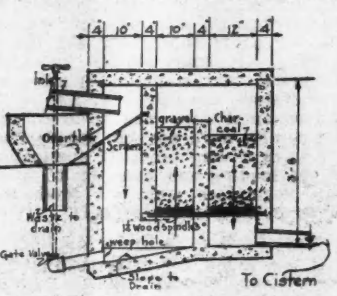


Diagram of equipment for filtering cistern water, arranged according to a plan developed by the Illinois Agricultural Experiment Station

carrying out most all sediment collected in the filter; the same valve could be left open if it were an undesirable time to collect water, after a long dry spell when the roof is covered with dust. Third, the filter may be constructed either above or below ground. Fourth, by providing a divided slab top, it may be easily removed for cleaning. Fifth, when built of concrete, as illustrated, it is permanent and would last a life time; it would also be economical. An occasional draining or cleaning is all that is necessary to keep it ready for use.

### Don't Connect Basement Drain to Septic Tank

WITH greater interest in making the farm home modern by installing plumbing and sanitary equipment, the question is often raised as to the advisability of connecting the basement drain to the septic tank drain. I would not advocate this practice; in fact, I would advise against it under most conditions.

In city sewage systems there are two systems of drainage provided, the sanitary sewers into which is discharged the sewage from all the sanitary fixtures, and the storm sewers into which the surface water flows and into which basement drains are connected.

In the country there would probably be no great damage done to connect the basement drain into the tile which serves as an outlet for a septic tank. There is at least no ordinance against it. In many septic tank installations, instead of connecting the outlet from the septic tank directly to a farm drain tile, it is installed a few feet to one side so that the liquid from the tank would seep through several feet of earth before reaching the drain tile. To connect the basement drain to such an outlet which has no direct connection with the drain from the septic tank, there would be no special objection.

In any case, the basement outlet should be provided with a suitable trap, to serve as a seal to prevent odors coming into the basement. Where wash water is discharged into the basement drain each week, there will be

odors unless a trap is provided. There is always a possibility of the water in a trap evaporating, and for this reason some water should be run into the drain at regular intervals.

Where the surrounding land is quite level and there is danger of back water from the drain, it is desirable to install some type of self-closing valve. There is on the market a combination self-closing valve and trap that is quite satisfactory in preventing back water from entering the basement.

### Electric Versus Ice Refrigerator

THE QUESTION as to the amount of electricity needed to operate an electric refrigerator is often raised. Records kept by the Illinois Agricultural Experiment Station show that the average monthly consumption for a number of farms for a year amounted to 41.9 kilowatt hours. During the months of April to September, inclusive, the average energy used per month by each farmer was 56.1 kilowatt hours. This is apparently somewhat higher than the energy consumed by many refrigerators due to the fact that liberal use was made of the refrigerator in making ices, ice cream, etc. on these farms. The operating cost would depend on the rate for electric energy. Some power companies have a special rate for refrigerators. If the rate is six cents per kilowatt hour, then the cost during the summer months would amount to \$3.37 a month or a little over 10 cents a day.

The cost of ice for a 40 to 50-pound capacity refrigerator box amounts to at least \$3 a month with ice at 50 cents a hundred. The ice would be delivered in town at about 10 cents a hundred more than this, but it would not be delivered to the country. From these figures, it is evident that the cost of operating an electric refrigerator is about the same as the cost of operating an ice box. It should not be overlooked, however, that the owner of an electric refrigerator would have a much larger investment and higher depreciation and repair cost.

Many people justify the additional investment in the electrical refrigerator on the basis of its additional advantages over the ice box. The electric refrigerator eliminates the chore of getting ice and the trouble experienced with an overflowing pan under the ice box that must be emptied at regular intervals. Another great advantage is the little effort required in making frozen desserts.

Food can also be kept much longer without spoiling, due to the slight change in temperature. In an ice box, the temperature varies with the size of the piece of ice in the box. As the piece of ice gets smaller, the temperature rises.

An advantage of the ice box is its lack of mechanical troubles. The electric refrigerator needs some attention to keep it in operating condition. Dealers are aware of this and provide service men to take care of their machines.

### Removing Paint and Dirt from Glass

ONE OF the best ways to remove paint and dirt from glass is by means of an old safety razor blade. Holders for blades to be used for this purpose are now on the market, and with their help, paint and dirt can be removed from glass very thoroughly and very quickly.

He—Would you marry a man who lied to you?  
She—You don't think I want to be an old maid, do you?



### Why injure your lungs?

WHEN you spray fruit trees, you breathe injurious chemicals. Protect your nose, throat and lungs by wearing a mask! Dr. Willson's Dust and Spray Mask is comfortable. Allows free breathing. Protects you from dust as well as sprays. Wear it for threshing, treating seed, in the care of poultry and other dusty work. Ask to see one at your nearest hardware, drug or general store. Priced at \$2.25. If your dealer can't supply you, write to WILLSON GOGGLES, Inc., Reading, Pa., U. S. A.

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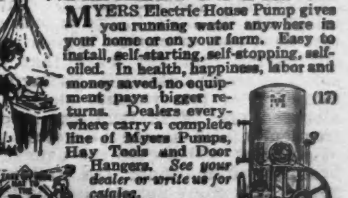
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This is a real bag for real service and satisfaction. Made of heavy canvas duck. Load easily carried and can be emptied gently without removing from shoulder. A practical and time-saving bag endorsed by every user.  
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## Profitable Poultry

By Ralston R. Hannas

### The Importance of Culling

**T**HIS is the month when culling starts in earnest. Many poultry keepers watch their flocks closely and cull them throughout the year, removing any that are real culls, or worthless ones, as soon as they appear, but most poultry keepers will give serious attention to this part of the work beginning about the first of July.

The removal of the non-layers is the chief aim of culling, due to the saving in dollars and cents. However, there is a phase of culling that is frequently overlooked. That is the possibility of removing such diseases as tuberculosis from the flock. There are a number of flocks in certain areas where this disease is prevalent. It is a difficult disease to get rid of owing to the fact that it usually does not show up to any extent until it is pretty well advanced.

One important object in culling, then, in these sections, should be the removal of any birds that are emaciated or exceptionally thin. Any bird that is the least suspicious looking in this regard and shows a lack of vitality should be disposed of. There is a difference between the bird that has lost weight because of heavy laying and still has vigor and vitality, and one that lacks vitality. This is one of the best ways of ridding a flock of tuberculosis as well as other troubles. It should therefore be considered carefully when the regular culling is done, and egg production, or the lack of it, should not be the only thing looked for.

#### Get Rid of the Non-Layer

In culling the hens, that is, in separating the poor ones from the good ones, a number of things must be taken into account. A hen that is laying has a bright red comb that is soft and waxy to the touch; a non-layer has a small, dried up, powdery comb with a dull color. A layer of any of the breeds that has a yellow skin, as the Plymouth Rocks, Rhode Island Reds, Wyandottes and Leghorns, is faded out in all sections; a non-layer is yellow in all sections. When a bird stops laying, she first becomes yellow just around the vent, then around the eye ring, then at the beak, then in the shanks. In the case of birds having white ear lobes, the ear lobes also show considerable yellow pigment. A bird that has yellow around the vent only has not been laying for a couple of weeks, while one that is yellow in all sections, including the shanks, has not laid for about three months.

A bird that is laying has a moist vent, while one that is not laying has a dried up and puckered vent. The skin of a layer is soft and pliable; that of a non-layer is hard and is not pliable. The bones on each side of the vent in the case of a laying bird are soft and pliable and have a space equal to the width of two fingers between them, while in the case of the cull these bones are not pliable, are hard, have considerable hard fat around them, and are tight together, sometimes not even far enough apart so a person can get one finger between them.

Birds that molt early—this time of the year—are not as a rule considered worth keeping, as they are considered the poorest layers. These things are the main things to look for just now, and, of course, it goes without saying that any hens that are sickly or weak looking, indicating that they are of low vitality, should be disposed of. Birds that are broody frequently also should be gotten rid of so there will not be the danger of breeding from them the following year. This characteristic can be bred into the flock, so be sure all broodies are disposed of so there will not be the temptation to breed from them next year.

### Heat Prostration

**J**ULY is noted for its hot weather and the effect of this hot weather upon the chickens. Heat prostrations are very common during this month and must be watched for by the poultryman. Houses must be kept as cool as possible by having all ventilators and openings open, especially those near the floor so there will be a circulation of air on the floor. Prevent crowding in this kind of weather. The regular culling periods every two or three weeks will help to relieve the condition in the houses by reducing the number of birds, thus giving those remaining more room.

Birds that are affected with the heat will first stand with their wings outspread and will pant and gasp for air. Later they will fall to the ground and will still gasp for air. Any birds thus affected should be removed at once to a cool place and should have cold water put on their heads and legs and should be kept in a cool place until they become normal.

The nests are places in which heat prostration takes a big toll, especially trapnests. Where trapnesting is being done, the nests should be visited oftener than usual in order to release any hens as quickly as possible that show signs of being overcome. Even where the ordinary nests are used, it is a good plan to visit them off and on during the hot part of the day to see that two hens are not crowding into the same nest with disastrous results for one or both of them.

### Change the Equipment

**C**HICKS that are half grown or are more than half grown should not be expected to eat from hoppers and drink from drinking pans that were meant for baby chicks. Providing the stock with equipment that will suit their needs will make it easier for the birds to eat their mash or drink their water and will result in greater mash and water consumption, which in turn will result in better growth.

Every means possible should be adopted to insure greater feed consumption during the growing period, and these small hoppers do not give the young stock enough hopper space and will therefore not induce the proper consumption of feed.

### Shade, Water and Green Food

**S**HADE, water and green food are three essentials in growing good young stock. We say a good deal about the beneficial effects of sunshine in supplying vitamin D, the vitamin that prevents rickets. But what happens when the sun is so hot the birds refuse to go out in it? Simply this: they either stay in the houses or stay under them until the sun goes down, and they are just as likely to have leg weakness as when there is no sun at all—particularly in sections, as in the South, where there is considerable sunshine and the sun is hot.

On a range that has plenty of shade, there is less likelihood of this condition existing, since the birds will move around more and will come in contact with the direct rays of the sun, but will find it more easy to get back into the shade than if there were no shade except that in or under the houses.

Natural forms of shade are the best, such as trees, underbrush, corn, sunflowers, or any growing plant or shrub that supplies shade. But if these are not present, some artificial form of shade must be provided by building low sheds at frequent intervals on the range. These can be made of wood, canvas, burlap or branches of trees.

Growing chicks require a great deal of water at any time, but especially now when it is so hot. See that they get it. It may be necessary to fill

pans several times a day. Even if the pans are not empty, see that they are filled with cool water; it is much better than warm water and the chickens will drink more of it. By all means, set the water pan in the shade. If water is piped to the range, see that it is allowed to run through the pipes until it is cool before filling the pans.

The youngsters will make so much better growth if there is an abundance of green food. An alfalfa or clover field is just the thing, but if this is not available, see to it that some other kind of greens is provided. The result will be worth it.

### The Refrigerator Car and Its Influence

(Continued from page 10)

ent leads of the electrical thermometers were connected up to a master cable, and thence out under the door to the top of the car on the outside, where readings were taken through the use of the electrical reading or measuring box, without ever opening the car doors throughout the entire journey. It may readily be seen, therefore, that a perfect picture of temperature conditions within these experimental cars was secured, and the results were not only interesting, but have a very practical application in the loading and handling of fruits and vegetables from all producing areas in the country as well.

#### Best Position Is Under Bunkers

It was found, for instance, that the most favorable and uniform location in a refrigerator car is at the bottom of the load near the ice bunkers. The fruit temperature at this position in the experimental cars leaving the Pacific Coast, during the first six days of the journey, averaged 36.8 degrees Fahrenheit, and during the last five days of the journey, 35 degrees. The least favorable position was found to be at the top layers in the center of the load, about half way between the ice bunkers and the doorway. At this position the average temperature of the fruit during the first six days out was 59 degrees, and during the last five days it averaged 49.5 degrees. It is interesting to compare these figures carefully with those given above for the most favorable location in the car. Again, the temperature of the fruit throughout the top layers averaged from nine to 16 degrees higher than in the bottom layers, and at the beginning of the journey, the actual temperature of the fruit in the top layers averaged 20 degrees higher than in the bottom. This condition prevailed with an outside air temperature of between 80 and 90 degrees, and a fruit temperature when loaded of around 75 and 80 degrees.

#### Top of Car Is Warmest

It is a well known fact, established in the other tests conducted by the United States Department of Agriculture as shown in their published reports, that the temperature gradually increases from the bottom to the top of the load, and that all top layers are warmer throughout than bottom layers. All ripe lines of fruit, therefore, should be loaded in the bottom layers whenever practical. The temperature of the fruit in the bottom of the load near the ice bunkers dropped to 45 degrees, or thereabouts, within 12 hours after the car doors were closed, while it took four days for the temperature of the fruit in the top of the load, half way between the ice bunkers and center bracing, to drop to 55 degrees, and the average at this position during the last five days of the journey to New York City was 49.5 degrees.

It was also found that the addition of salt to the ice in the bunkers aided in reducing temperatures in the top of the load materially; but a word of caution is necessary with reference to the use of salt. A light mixture of from two to four per cent ordinary rock salt of the amount of ice in the bunkers at the time of loading and at the first re-icing is advantageous in reducing car temperatures promptly, and

in lowering the spread between the top and bottom layer temperatures. With certain commodities which are very highly perishable in nature, and susceptible to frost injury, the use of salt is positively dangerous, and for this reason care should be exercised in its use. It was found in the California shipments that from 250 to 300 pounds of rock salt could be safely added at the point of origin, distributed equally between both bunkers. An amount slightly in excess of this poundage would probably not be detrimental to most fruits.

### Modern Refrigerator Car Is Highly Efficient

One must not draw the inference from what has been said that the modern refrigerator car is inefficient. It is anything but that. Remarkable strides have been made in recent years in perfecting the American type of refrigerator car, and the railroads of this country without question lead the world in the transportation of highly perishable products for long distances under adequate and sufficient refrigeration. Any refrigerator car, however, subject to the physical limitations of transportation over rails, cannot carry with it the efficiency found possible in stationary cold storage plants in large cities. That so much progress has been made in spite of the physical limitations under which carriers are working is a tribute to the engineering skill and ability of those who have been interested in this all-important work. It is true the modern car has certain limitations, but when these limitations are clearly understood, it is not difficult to guard against them in the transportation of fruit products from producing areas to points of consumption. When growers generally understand just exactly the type of car they are using, when they learn to appreciate the cost of adding any innovation of even the smallest kind to the 130,000 odd cars now in use in transporting perishable products to market, they will realize more clearly the difficulties which the carriers are up against in making radical changes until they have been proved thoroughly satisfactory. The significance of the refrigerator car in developing the production of fruits and vegetables, in extending the uses of meat and meat products, and in developing markets for other high class perishables, can scarcely be appreciated; but with all of this progress it is safe to say that during the next quarter of a century probably even greater strides will take place.

### Destroy Leaves and Spray for Cherry Leaf Spot

**F**ALLEN LEAVES in cherry orchards at this time of the year indicate the presence of cherry leaf spot. This disease is carried through the winter on the leaves, and one of the important steps in combating the disease consists in destroying the leaves either by plowing under or burning in the fall or early spring.

In addition to destroying the leaves, a dilute lime-sulphur spray should be applied immediately after the petals fall in the spring, and a second application should be made about two weeks later. A third application can often be applied to advantage just after the cherries are harvested. Destruction of the leaves, accompanied by a good spraying program, will control the disease and enable the trees to retain a healthy foliage throughout the growing season.

Most sweet and sour cherries are susceptible to the disease. Sweet cherries are particularly susceptible to lime-sulphur injury, and the mixture should contain one gallon of concentrated lime-sulphur to 50 gallons of water. For sour cherries, the spray may consist of one gallon of lime-sulphur to 40 gallons of water.

### The Kind That Sticks

"You don't hear any talk nowadays about a more elastic currency."  
"No; what we want today is a more adhesive currency."



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## Spray Spot

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## Pipe Smoker Finds the Right Tobacco for the Tropics

Happily learns that his favorite tobacco smokes equally well in warm climate as in cold or temperate ones

Evidently, one of the problems of pipe smokers who live in the tropics is to find a tobacco that high temperature will not spoil.

Mr. R. G. Rigg of Colombia, S. A., was happy to find that he could enjoy in South America the same tobacco that had been his favorite since 1908 when he lived in Iowa.

His experience may be a tip to others who have had difficulty finding a tobacco that will keep its quality and flavor in warm climates.

Read his letter:

October 6, 1926

Larus & Bro. Co.  
Richmond, Va., U. S. A.  
Gentlemen:

Most all well-known tobaccos smoke well in a cold or temperate climate, but very few in a tropical climate. They are mostly too heavy, don't seem to be blended right—at least that is my opinion gained from practical experience.

However, Edgeworth is the same in any climate. Again that is my opinion gained by practical experience.

I cannot get the same pleasure out of any brand of tobacco that I can out of Edgeworth, and I have tried many—and paid fancy prices too. It costs real money to smoke imported tobaccos here; the import duty is very high.

Anyway, we cannot have everything we would like in these countries, so we hold on to all the little pleasures possible. Now you know why I smoke Edgeworth.

Yours respectfully,  
R. G. Rigg,  
Cartagena, Colombia, S. A.

To those who have never tried Edgeworth we make this offer:

Let us send you free samples of Edgeworth so that you may put it to the pipe test. If you like the samples, you'll like Edgeworth wherever and whenever you buy it, for it never changes in quality.

Write your name and address

to Larus & Brother Company, 13 S. 21st Street, Richmond, Va.

We'll be grateful for the name and address of your tobacco dealer, too, if you care to add them.

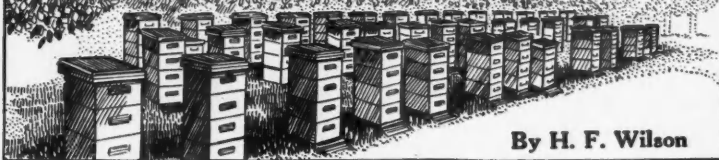
Edgeworth is sold in various sizes to suit the needs and means of all purchasers. Both Edgeworth Plug Slice and Edgeworth Ready-Rubbed are packed in small, pocket-size packages, in handsome humidor holding a pound, and also in several handy in-between sizes.

To Retail Tobacco Merchants: If your jobber cannot supply you with Edgeworth, Larus & Brother Company will gladly send you prepaid by parcel post a one- or two-dozen carton of any size of Edgeworth Plug Slice or Edgeworth Ready-Rubbed for the same price you would pay the jobber.

On your radio—tune in on WRVA, Richmond, Va.—the Edgeworth station. Wave length, 254.1 meters.



## Bee Keeping for Fruit Growers



By H. F. Wilson

## Publicity for Increasing Honey Sales

GOOD ADVERTISING, well planned, pays. According to expert opinion, newspaper or magazine publicity is worth more than advertising in other forms. In fact, good publicity in the reading pages is probably much better publicity than advertising placed in the advertising columns. Successful business firms, in the disposal of their products, devote a great deal of attention to the development of proper sales talks for their salesmen. Sales talks, while generally considered as propaganda to be given by word of mouth, need not necessarily depend upon that source, as the greater part of sales talk really comes out in printed form.

Beekeepers, as individuals, can accomplish a great deal through stories about honey and bees in local papers. Many of our country papers welcome such material when it contains accurate information and is well written. Some editors are even willing to take the facts submitted and re-write the material. This matter has

As a beginning, premium list No. 1 may be used, and after one or two years' effort, sufficient interest should be aroused to get the fair board and the beekeepers to co-operate in developing the second premium list. It is understood, of course, that some of these entries may be omitted and others substituted if desired.

## Do Not Neglect the Bees After the Honey Flow

BEEKEEPERS frequently consider that the care of bees ends with the securing of the honey crop. This is a serious mistake so far as the next year's crop is concerned, and, as we have pointed out before, the beekeepers' year really begins the latter part of July, or the first of August, in preparation for the crop of the year to come. At least every other year, during the month of July, all colonies should be requeened with

### SAMPLE PREMIUM LIST NO. 1 Bees and Honey

	First Prize	Second Prize
1—White comb honey—12 sections.....	\$3.00	\$1.50
2—Light amber comb honey—12 sections.....	3.00	1.50
3—Amber comb honey—12 sections.....	3.00	1.50
4—Extracted white honey—6 one-pound jars.....	3.00	1.50
5—Extracted light amber honey—6 one-pound jars.....	3.00	1.50
6—Extracted amber honey—6 one-pound jars.....	3.00	1.50
7—Best display, extracted granulated Langstroth honey.....	3.00	1.50
8—Three Langstroth extracting combs filled with honey.....	3.00	1.50
9—Three banded Italian bees with queen, in single frame observatory hive, with glass on both sides.....	5.00	3.00
10—Best display of beeswax.....	3.00	1.50

### SAMPLE PREMIUM LIST NO. 2

	First Prize	Second Prize
1—White comb honey—12 sections.....	\$4.00	\$2.00
2—Light amber comb honey—12 sections.....	4.00	2.00
3—Amber comb honey—12 sections.....	4.00	2.00
4—Extracted white clover honey—6 one-pound jars.....	4.00	2.00
5—Extracted basswood honey—6 one-pound jars.....	4.00	2.00
6—Extracted buckwheat honey—6 one-pound jars.....	4.00	2.00
7—Extracted mixed white honey—6 one-pound jars.....	4.00	2.00
8—Extracted mixed light amber honey—6 one-pound jars.....	4.00	2.00
9—Extracted mixed amber honey—6 one-pound jars.....	4.00	2.00
10—Best display, extracted granulated honey.....	4.00	2.00
11—For the best display of graded comb honey, consisting of 3 sections each of fancy, No. 1 and No. 2, all of one color with the proper grade labeled or stamped on each section.....	4.00	2.00
12—For the best display of graded extracted honey, No. 1, in the five colors, water white, white, light amber, amber and dark. One one-pound jar of each color. Each jar to be labeled or stamped with the proper grade.....	4.00	2.00
13—Golden Italian bees, with queen, in single frame observatory hive with glass on both sides.....	6.00	3.00
14—Three banded Italian bees, with queen, in single frame observatory hive with glass on both sides.....	6.00	3.00
15—Three Langstroth extracting combs, empty.....	3.00	1.50
16—Three Langstroth extracting combs, filled with honey.....	4.00	2.00
17—Best display of beeswax.....	3.00	1.50
18—One cake, honey sweetened, with recipe, weight not less than one pound.....	3.00	1.50
19—Twelve cookies, honey sweetened, with recipe.....	3.00	1.50
20—Assortment of canned fruit, jelly, preserves, etc., with honey only, in new clean glass containers, with recipes.....	4.00	2.00
21—Pure honey vinegar, one-half gallon glass jar.....	3.00	1.50

been mentioned before, but there is need for a much greater effort on the part of the beekeepers this coming year because of the slump in the honey market which has existed since 1925. A great deal can also be accomplished through honey exhibits, both by individual beekeepers and through collected exhibits at county and state fairs.

Practically every state fair in America has an extensive honey premium list, but there are many county fairs at which no honey exhibits are made, and interested beekeepers should make it a point to have exhibits of honey and bees included in their local fairs, if they do not already exist. For the purpose of helping in the arrangement of such lists, we have asked Gus Dittmer, superintendent of the Wisconsin State Fair, to prepare two sample premium lists for smaller fairs.

young and vigorous queens, and sufficient honey should be left in each colony for brood-rearing during September and October. Bees produced in August will normally have worn themselves out by the time the colony is ready to go into winter quarters the latter part of November, and, if there are not sufficient bees to provide for a strong colony in the spring, there is very little chance for the colony to develop in time for the honey flow.

It is important, therefore, that beekeepers give just as careful attention to the development of the bee colony during July, August and September, as in the spring previous to the honey flow. The kind of attention given to the colonies during that period will determine to a large extent the results which will be obtained throughout the year.



## When Only The Best Will Do

New standards of tire satisfaction have been set by the latest and greatest achievement of Fisk tirecraft, the Fisk Extra Heavy Balloon.

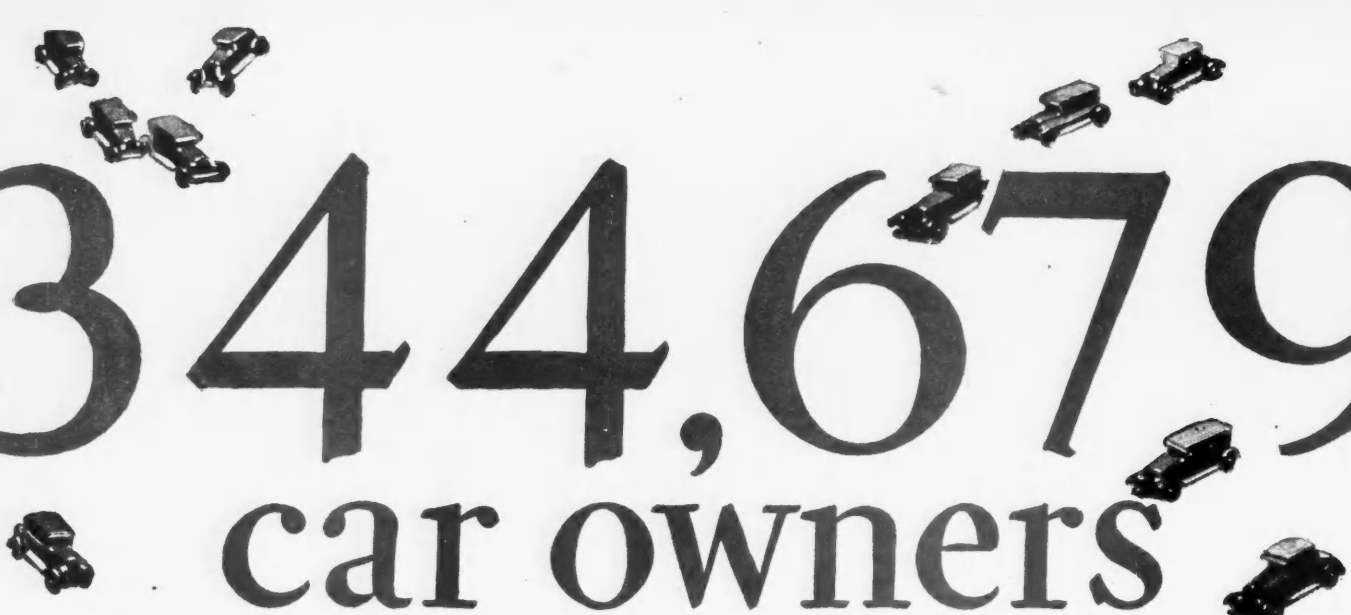
Built into this super-tire, a unique combination of resilience, strength and durability, are extra comfort, extra safety and extra mileage,—super-service.

To improve the performance and appearance of your car, to experience complete tire satisfaction plus true tire economy, get the Fisk Extra Heavy Balloon.

There is a tire for every need, in type, size and price, in the Fisk line.

"FISK SAYS IT WITH MILEAGE"





# 344,679 car owners say Buick will be *their* next car

A GENERAL and impartial survey of automobile owners recently conducted by a great organization, shows that 344,679 owners of other cars intend to change to Buick next time they buy a car.

These owners have compared their cars with Buick—in performance, in economy, in comfort, luxury and dependability. And they have decided that Buick offers greater value.

They have driven Buicks, and know how flexible Buick is in traffic, how easy it is to park, how effortlessly it takes the hills and how it responds instantly to the slightest pressure on the throttle.

They marvel at the efficiency of Buick's powerful six-cylinder Valve-in-Head Engine, which is *vibrationless beyond belief* at any speed.

And in all probability, a majority of those who intend to buy Buicks have been influenced in still another way—by the actual experience of their friends who are Buick owners.

Examine a Buick at your earliest opportunity. Find out why so many owners of other cars are changing to Buick every day.

BUICK MOTOR COMPANY, FLINT, MICHIGAN  
Division of General Motors Corporation  
Canadian Factories: McLAUGHLIN-BUICK, Oshawa, Ontario



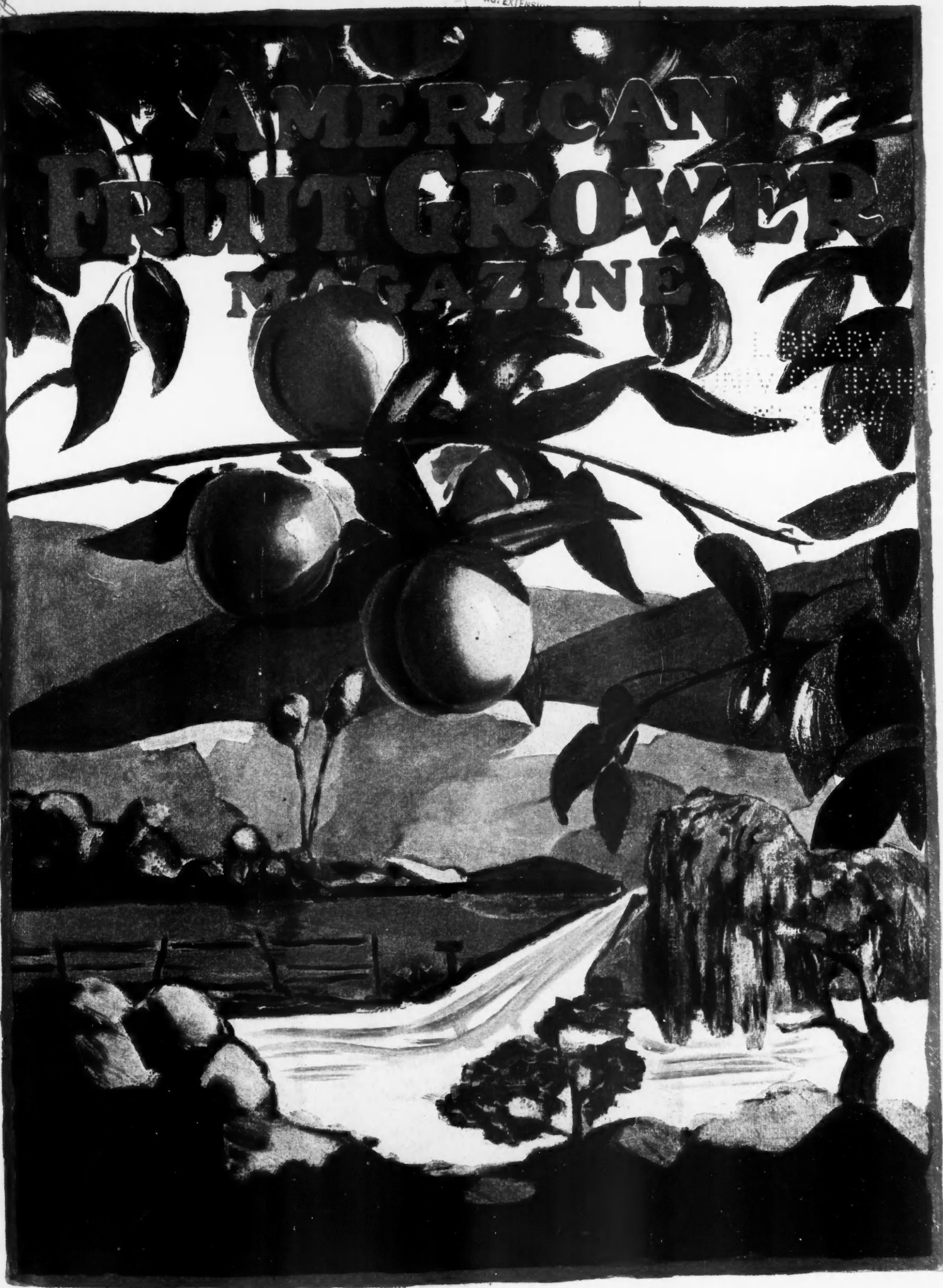
WHEN BETTER AUTOMOBILES ARE BUILT, BUICK WILL BUILD THEM



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# AMERICAN FRUIT GROWER MAGAZINE



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August, 1927  
*Ten Cents a Copy*



# When Buick speaks *the World* listens

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